

EXHIBIT 18

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

DYNAENERGETICS EUROPE GMBH, and	§	
DYNAENERGETICS US, INC.,	§	
	§	
Plaintiffs,	§	
	§	
v.	§	Civil Action No. 4:20-cv-02123
	§	
HUNTING TITAN, INC.,	§	
	§	JURY TRIAL DEMANDED
Defendant.	§	

**DEFENDANT’S AMENDED ANSWER, AFFIRMATIVE DEFENSES, AND
COUNTERCLAIMS TO PLAINTIFFS’ SECOND AMENDED COMPLAINT**

Subject to and without waiving its Motion to Dismiss pursuant to Fed. R. Civ. P. 12(b), Defendant Hunting Titan, Inc. (“Hunting,” “Defendant,” or “Counter Plaintiff”) files this Answer, Affirmative Defenses, and Counterclaims in response to DynaEnergetics Europe GmbH and DynaEnergetics US, Inc. (collectively, “DynaEnergetics” or “Plaintiffs”) Second Amended Complaint¹ (Docket No. 63) (“the Complaint”).

PARTIES

1. Defendant is without knowledge or information sufficient to form a belief as to the allegations in paragraph 1 of the Complaint, and therefore denies them.
2. Defendant is without knowledge or information sufficient to form a belief as to the allegations in paragraph 2 of the Complaint, and therefore denies them.
3. Defendant admits the allegations in paragraph 3 of the Complaint.

¹ Plaintiffs styled the most-recent complaint as the “Second Amended Complaint,” but they already filed a second amended complaint on April 28, 2020. *See* Dkt. 32. This new complaint is actually their third amended complaint.

4. Defendant admits the allegations in paragraph 4 of the Complaint.

JURISDICTION AND VENUE

5. Defendant admits that the Complaint alleges patent infringement under 35 U.S.C. § 1, *et seq.*, including U.S.C. § 271. Defendant denies any remaining allegations in paragraph 5 of the Complaint.

6. Defendant admits that this Court has subject matter jurisdiction over this action. Defendant denies any remaining allegations in paragraph 6 of the Complaint.

7. Defendant admits that this Court has personal jurisdiction over Defendant Hunting Titan, Inc. and that the venue is proper in this judicial district. Defendant denies any remaining allegations in paragraph 7 of the Complaint.

8. Defendant admits that venue is proper in this judicial district. Defendant denies any remaining allegations in paragraph 8 of the Complaint.

FACTS

9. Defendant denies the allegations in paragraph 9 of the Complaint.

10. Defendant denies the allegations in paragraph 10 of the Complaint.

11. Defendant admits that, on its face, United States Patent No. 10,429,161 (“the ‘161 Patent”), is titled “PERFORATING GUN COMPONENTS AND SYSTEMS,” purports to have been issued on October 1, 2019 to DynaEnergetics GmbH & Co. KG. Defendant is without information sufficient to admit or deny any remaining allegations in paragraph 11 of the Complaint and on that basis denies them.

12. Defendant admits that, on its face, United States Patent No. 10,472,938 (“the ‘938 Patent”), is titled “PERFORATING GUN COMPONENTS AND SYSTEM,” purports to have been issued on November 12, 2019 to DynaEnergetics GmbH & Co. KG and JDP Engineering and

Machine Inc. Defendant is without information sufficient to admit or deny any remaining allegations in paragraph 12 of the Complaint and on that basis denies them.

13. Defendant is without information sufficient to admit or deny the allegations in paragraph 13 of the Complaint and on that basis denies them.

14. Defendant admits that Hunting Titan, Inc. is a competitor of DynaEnergetics. Defendant admits that Hunting Titan, Inc. has manufactured, sold, or offered to sell the Hunting Titan H-1™ Perforating Gun System in the United States, including within the State of Texas. Defendant denies any remaining allegations in paragraph 14 of the Complaint.

15. Defendant admits that Hunting Titan, Inc. has manufactured, distributed, sold, or offered to sell a factory assembled, preloaded version of the Hunting Titan H-1™ Perforating Gun System as part of its Payload line of perforating guns. Defendant denies any remaining allegations in paragraph 15 of the Complaint.

16. Defendant denies the allegations in paragraph 16 of the Complaint.

17. Defendant denies the allegations in paragraph 17 of the Complaint.

18. Defendant denies the allegations in paragraph 18 of the Complaint.

19. Defendant denies the allegations in paragraph 19 of the Complaint.

COUNT I – INFRINGEMENT OF THE ‘161 PATENT

20. Defendant admits that paragraph 20 of the Complaint purports to incorporate by reference the allegations contained in the foregoing paragraphs. Defendant denies any remaining allegations in paragraph 20 of the Complaint.

21. Defendant is without information sufficient to admit or deny the allegations in paragraph 21 of the Complaint and on that basis denies them.

22. Defendant denies the allegations in paragraph 22 of the Complaint.

- 23. Defendant denies the allegations in paragraph 23 of the Complaint.
- 24. Defendant denies the allegations in paragraph 24 of the Complaint.
- 25. Defendant denies the allegations in paragraph 25 of the Complaint.
- 26. Defendant denies the allegations in paragraph 26 of the Complaint.
- 27. Defendant denies the allegations in paragraph 27 of the Complaint.
- 28. Defendant denies the allegations in paragraph 28 of the Complaint.

COUNT II – INFRINGEMENT OF THE ‘938 PATENT

29. Defendant admits that paragraph 29 of the Complaint purports to incorporate by reference the allegations contained in the foregoing paragraphs. Defendant denies any remaining allegations in paragraph 29 of the Complaint.

30. Defendant is without information sufficient to admit or deny the allegations in paragraph 30 of the Complaint and on that basis denies them.

- 31. Defendant denies the allegations in paragraph 31 of the Complaint.
- 32. Defendant denies the allegations in paragraph 32 of the Complaint.
- 33. Defendant denies the allegations in paragraph 33 of the Complaint.
- 34. Defendant denies the allegations in paragraph 34 of the Complaint.
- 35. Defendant denies the allegations in paragraph 35 of the Complaint.
- 36. Defendant denies the allegations in paragraph 36 of the Complaint.
- 37. Defendant denies the allegations in paragraph 37 of the Complaint.

ATTORNEYS’ FEES

- 38. Defendant denies the allegations in paragraph 38 of the Complaint.

JURY DEMAND

39. Defendant admits that Plaintiffs request a trial by jury. Defendant denies any remaining allegations in paragraph 39 of the Complaint.

PRAYER FOR RELIEF

40. Defendant denies that Plaintiffs are entitled to any of the requested relief.

AFFIRMATIVE DEFENSES

41. Defendant asserts the following affirmative defenses to Plaintiffs' claims for patent infringement. The assertion of an affirmative defense is not a concession that the Defendant has the burden of proving the matter asserted:

First Affirmative Defense

42. The Complaint fails to state a claim upon which relief may be granted.

Second Affirmative Defense

43. The '161 Patent and '938 Patent are invalid for failure to comply with or satisfy the requirements and/or conditions of patentability as specified under one or more sections of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 102, 103, and/or 112.

44. All elements of at least claim 20 of the '161 Patent and at least claim 1 of the '938 Patent are taught by or obvious to a person of ordinary skill in the art in view of prior art patent applications and publications, including but not limited to United States Patent Nos. 9,689,223, 9,080,433, 8,451,137, 8,091,477, 7,347,278, 5,347,929, 5,159,146, and 4,744,424, and United States Patent Publications 2016/0084048, 2015/0330192, 2012/0247771, 2009/0272529, and 2008/0149338. This is shown in the attached Final Written Decision, Case No. IPR 2018-00600, attached as Exhibit A, and Petition for Inter Partes Review, Case No. IPR 2018-00600, attached as Exhibit B. At least claim 20 of the '161 Patent and at least claim 1 of the '938 Patent are not

patentably distinct from the claims at issue in IPR2018-00600. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 102 and/or 103.

45. The alleged invention of at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent was in public use, on sale, or otherwise available to the public before the effective filing date through at least Baker Hughes’ “SurePerf” system and associated services as described in Exhibits C and D. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 102.

46. Any differences between the invention of at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent and Baker Hughes’ “SurePerf” system and associated services as described in Exhibits C and D are such that the claimed invention as a whole would have been obvious to a person of ordinary skill in the art. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 103.

47. The ‘161 Patent fails to provide an enabling disclosure or a written description for at least “terminating a/the detonation cord in the perforation gun system,” “a first connector for providing energetic coupling between a detonator and a detonation cord,” and “wherein at least one of the first and second connectors receive electrical connections therethrough,” as claimed. The ‘161 Patent does not describe how to make or use a device for terminating a detonation cord in a perforation gun system, providing energetic coupling between a detonator and a detonation cord, or wherein at least one of the first and second connectors receive electrical connections therethrough, in sufficient detail for a person of ordinary skill in the art to make and use the invention. Therefore, all claims of the ‘161 Patent are invalid under 35 U.S.C. § 112.

48. The ‘161 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, for at least the claim language “a

first connector for providing energetic coupling between a detonator and a detonation cord,” “wherein at least one of the first and second connectors receive electrical connections therethrough,” and “at least one second connector ... for terminating a detonation cord in the perforation gun system,” as claimed in all claims. The claim language and specification are silent on what “energetic coupling between a detonator and a detonation cord” is or any examples of how it may be achieved structurally. This claim language requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. The claim language “wherein at least one of the first and second connectors receive electrical connections therethrough,” is not clear in that “terminating a detonation cord in the perforation gun system” is undefined and requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. The claim language “at least one second connector ... for terminating a detonation cord in the perforation gun system,” is not clear in that “terminating a detonation cord in the perforation gun system” is undefined and requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. Therefore, all claims of the ‘161 Patent are invalid under 35 U.S.C. § 112.

49. The ‘938 Patent fails to provide an enabling disclosure or a written description for at least “wireless signal in connector,” “wireless ground contact connector,” “wireless through wire connector,” or “wireless electrical contact” as claimed. The ‘938 Patent does not describe how to make or use those items in sufficient detail for a person of ordinary skill in the art to make and use the invention. Therefore, all claims of the ‘938 Patent are invalid under 35 U.S.C. § 112.

50. The ‘938 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, for at least the claim language “a tandem seal adapter,” “bulkhead,” and “wireless” as claimed. The claim language is not clear in that these terms are undefined and require the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. Therefore, all claims of the ‘938 Patent are invalid under 35 U.S.C. § 112.

51. The ‘938 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, because the claims provide no structural relationship between the “charge holder,” “detonator,” “bulkhead,” and “tandem seal adapter.”

52. The Defendant reserves the right to assert any other basis for invalidity, or any other defense, that discovery may reveal.

Third Affirmative Defense

53. Plaintiffs’ claims for relief and prayer for damages are barred, in whole or in part, by 35 U.S.C. § 287.

Fourth Affirmative Defense

54. Plaintiffs are estopped from construing the claims of the ‘161 Patent or ‘938 Patent in such a way as may cover any product or process of the Defendant by reasons of statements made to the United States Patent and Trademark Office (“USPTO”) during the prosecution of the application that led to the issuance of the ‘161 and ‘938 Patents.

Fifth Affirmative Defense

55. The ‘161 and ‘938 Patents are unenforceable because they were procured through inequitable conduct before the USPTO.

‘161 Patent Prosecution:

56. The application resulting in the ‘161 Patent was filed on June 8, 2017 as Application No. 15/617,344 (The ‘161 Patent Application).

57. On March 14, 2018, the applicant filed an Information Disclosure Statement (IDS) in the application resulting in the ‘161 Patent. That IDS disclosed US publication 20120247769 to Schacherer.

58. The March 14, 2018 IDS in the ‘161 Patent Application was submitted by Janelle A. Bailey.

59. US Publication 2012/0247769 to Schacherer is the original publication of the application that lead to United States Patent No. 9,689,223 (“the Schacherer ‘223 Reference”).

60. On March 11, 2019, the Applicant amended the claims and added new claims in the application resulting in the ‘161 Patent. One of those new claims was the now asserted claim 20.

61. None of the briefing, orders, expert reports, or other filings in IPR2018-00600 were ever disclosed to the Examiner of the ‘161 Patent application.

62. On February 15, 2019, the Applicant filed an IDS in the ‘161 Patent Application disclosing US Patent No. 10,077,641 (Rogman) and United States Patent Application No. 20160084048 (Harrigan) to the Examiner.

63. On March 11, 2019, the Plaintiffs amended the ‘161 Patent Application to add claim 20.

64. Claim 20 is broader in scope than any other claim in the ‘161 Patent.

65. On March 25, 2019, the United States Patent and Trademark Office (USPTO) sent a notice of allowance in the ‘161 Patent Application.

66. On April 8, 2019, Julie Banks conducted an interview with the Examiner of the ‘161 Patent Application.

67. The substance of that April 8, 2019 Interview was a request to confirm that the Examiner had considered the references submitted by the Applicant on Information Disclosure Statements.

68. On May 31, 2019, the United States Patent and Trademark Office (USPTO) sent another notice of allowance in the ‘161 Patent Application.

69. On September 4, 2019, the United States Patent and Trademark Office (USPTO) sent another notice of allowance in the ‘161 Patent Application.

70. On September 11, 2019, the USPTO sent an issue notification in the application resulting in the ‘161 Patent.

71. The application resulting in the ‘161 Patent was prosecuted by attorneys at Moyles IP, LLC, including Lisa Moyles, Caroline Mrohs, and Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey).

72. Ian Grieves signed a Power of Attorney for the application resulting in the ‘161 Patent on behalf of DynaEnergetics GmbH & Co. KG (the applicant).

‘938 Patent Prosecution:

73. The application resulting in the ‘938 Patent was filed on March 20, 2019 as Application No. 16/359,540 (The ‘938 Patent Application).

74. On March 20, 2019, the Applicant in the '938 Patent Application filed an IDS disclosed some of the references from IPR2018-00600 in the application resulting in the '938 Patent.

75. The March 20, 2019 IDS disclosed the following references from IPR2018-00600: 1) U.S. Patent 7,347,278 (Lerche, et al.), 2) U.S. Patent 9,080,433 (Lanclos, et al.), 3) U.S. Patent 9,581,422 (Preiss, et al.), 4) U.S. Patent 9,689,223 (Schacherer, et al.), 5) U.S. Patent 8,451,137 (Bonavides, et al.), 6) U.S. Publication 2016/0084048 (Harrigan, et al.).

76. On March 25, 2019, the Applicant in the '938 Patent Application filed an IDS disclosed some more of the references from IPR2018-00600 in the application resulting in the '938 Patent.

77. The March 25, 2019 IDS disclosed the following references from IPR2018-00600: 1) Hunting Titan Inc.'s Petition for Inter Parties Review of U.S. Patent No. 9,581,422, 2) Patent Owner's Response to Hunting Titan's Petition for Inter Parties Review, 3) Patent Owner's Motion to Amend, 4) PTAB's Institution of Inter Parties Review, 5) Schlumberger's Presentation: Combining and Customizing Technologies for Perforating Horizontal Wells in Algeria, 2011, 6) Baker Hughes' Presentation: Long Gun Deployment Systems Presentation, 2012, 7) and Owen Oil Tools' Presentation: Recommended Practice for Oilfield Explosive Safety, 2011.

78. The March 20, 2019 and March 25, 2019 IDS filings in the application that resulted in the '938 Patent indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

79. The March 20, 2019 and March 25, 2019 IDS filings in the '938 Patent Application indicate that those responsible for prosecuting that application knew that IPR2018-00600 was material to the claims at issue at that time.

80. On May 21, 2019, the Applicant filed a response to office action in the '938 Patent Application.

81. In the May 21, 2019 response to office action, the claims in the '938 Patent Application were amended to recite: a "wireless signal-in connector" in place of a "wireless bulkhead connector portion" and a "wireless bulkhead connecting portion"; a "wireless through wire connector" in place of a "wireless through wire connecting portion"; and, a "wireless ground contact connector" in place of a "wireless ground portion."

82. The Applicant said that those claim amendments did not materially change the scope of the claims in the '938 Patent Application.

83. In the May 21, 2019 response to office action in the '938 Patent Application, the Applicant argued that allowable subject matter may be found variously in the claimed detonator including the claimed connectors/connecting portions in original claims 1, 9, and 11.

84. The May 21, 2019 response to office action in the '938 Patent Application was signed by Jason Rockman.

85. On September 6, 2019, Jason Rockman, conducted an interview with the Examiner of the '938 Patent Application.

86. In that September 6, 2019 interview, Jason Rockman argued that that the proposed claims were patentable based on their priority claim.

87. On September 11, 2019, the USPTO sent a notice of allowance in the application resulting in the '938 Patent.

88. The Examiner stated that the claims of the '938 Patent were allowable because the Schacherer '223 Reference did not disclose "wherein at least a portion of the bulkhead is contained

within a tandem seal adapter, and the wireless ground portion is in wireless electrical contact with the tandem seal adapter.”

89. The Examiner’s conclusion was based on the faulty understanding that they could look only at item 84 of Schacherer to meet the bulkhead limitation, only at “outer housing 26” to meet the tandem seal adapter limitation, and only at item 46 to meet the wireless ground contact connector limitation.

90. On October 23, 2019, the USPTO sent an issue notification in the application resulting in the ‘938 Patent.

91. The application resulting in the ‘938 Patent was prosecuted by attorneys and/or patent agents at Moyles IP, LLC, including Lisa Moyles and Jason M. Rockman.

92. Ian Grieves signed a Power of Attorney for the application resulting in the ‘938 Patent on behalf of DynaEnergetics GmbH & Co. KG (the applicant).

The ‘422 Patent:

93. United States Patent No. 9,581,422 (The ‘422 Patent), issued on February 28, 2017 from Application No. 14/932,865.

94. All of the inventors named on the ‘422 Patent are also named as inventors on the ‘161 Patent and ‘938 Patent.

95. Plaintiffs have alleged that the ‘422 Patent is infringed through the manufacture of the H-1™ Perforating Gun System and sales of or offers to sell the H-1™ Perforating Gun System.

96. Plaintiffs have alleged that the H-1™ Perforating Gun System infringes one or more claims of the ‘422 Patent.

97. The subject matter of the ‘422 Patent is closely related to that of the ‘161 and ‘938 Patents.

98. All claims of the ‘422 Patent have been found Anticipated.

‘422 Patent IPR:

99. On February 16, 2018, Defendant filed a Petition seeking Inter-Partes Review of the ‘422 Patent, Case No IPR2018-00600.

100. IPR2018-00600 challenged the validity of United States Patent No. 9,581,422 (“the ‘422 Patent”).

101. Lisa Moyles and Jason M. Rockman are counsel of record for DynaEnergetics in IPR2018-00600.

102. Lisa Moyles and Jason M. Rockman have been counsel of record for DynaEnergetics in IPR2018-00600 since at least February 2018.

103. The Schacherer ‘223 Reference was a key piece of prior art in IPR2018-00600.

104. United States Patent No. 9,080,433 (“the Lanclos ‘433 Reference”) was attached to the Petition in IPR2018-00600.

105. The Lanclos ‘433 Reference was a key piece of prior art in IPR2018-00600.

106. By March 7, 2019 IPR2018-00600 was well underway and had included briefing of the parties and related expert reports through the Petitioner’s Reply in Support of the Petition and Response on Patent Owner’s Motion to Amend.

107. On August 20, 2019, the Patent Trial and Appeal Board (PTAB) issued its Final Written Decision in IPR2018-00600.

108. The August 20, 2019 Final Written Decision in IPR2018-00600 found all claims of the ‘422 Patent and all proposed Amended claims unpatentable.

109. Lisa Moyles and Jason M. Rockman were aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

110. Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey) was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

111. On information and belief, Caroline Mrohs was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

112. Ian Grieves was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

113. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the prior art, arguments, and substantive decisions in IPR 2018-00600 were material to the patentability of the claims pursued in the application that resulted in the '161 and '938 Patents no later than March 25, 2019.

114. On August 21, 2018 the Patent Trial and Appeal Board ("PTAB") issued its decision to institute Inter-Partes Review in IPR2018-00600 (IPR2018-00600, Paper 10).

115. On August 20, 2019, the PTAB issued the Final Written Decision in IPR2018-00600 (IPR2018-00600, Paper 42).

116. On March 7, 2019, Defendant filed Petitioners Reply in IPR 2018-00600 (IPR2018-00600, Paper 24).

117. On March 7, 2019, Defendant filed Petitioner's Opposition to Motion to Amend in IPR 2018-00600 (IPR2018-00600, Paper 25).

118. On April 11, 2019, Defendant filed Petitioners Sur-Reply on Motion to Amend in IPR 2018-00600 (IPR2018-00600, Paper 33).

119. On August 20, 2019, the PTAB filed the Transcript of Oral Hearing in IPR 2018-00600 (IPR2018-00600, Paper 42).

'938 Patent Materiality:

120. The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the Schacherer ‘223 Reference’s teachings regarding components “entirely within the perforating gun housing.” That discussion is material to at least the claim terms “an outer gun carrier,” “within the outer gun carrier,” and “entirely within the outer gun carrier,” in the ‘938 Patent claims.

121. The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the proper interpretation of the claim limitation “a shell configured for housing components of the detonator assembly.” That discussion is material to the ‘938 Patent claims’ “a detonator body containing detonator components.”

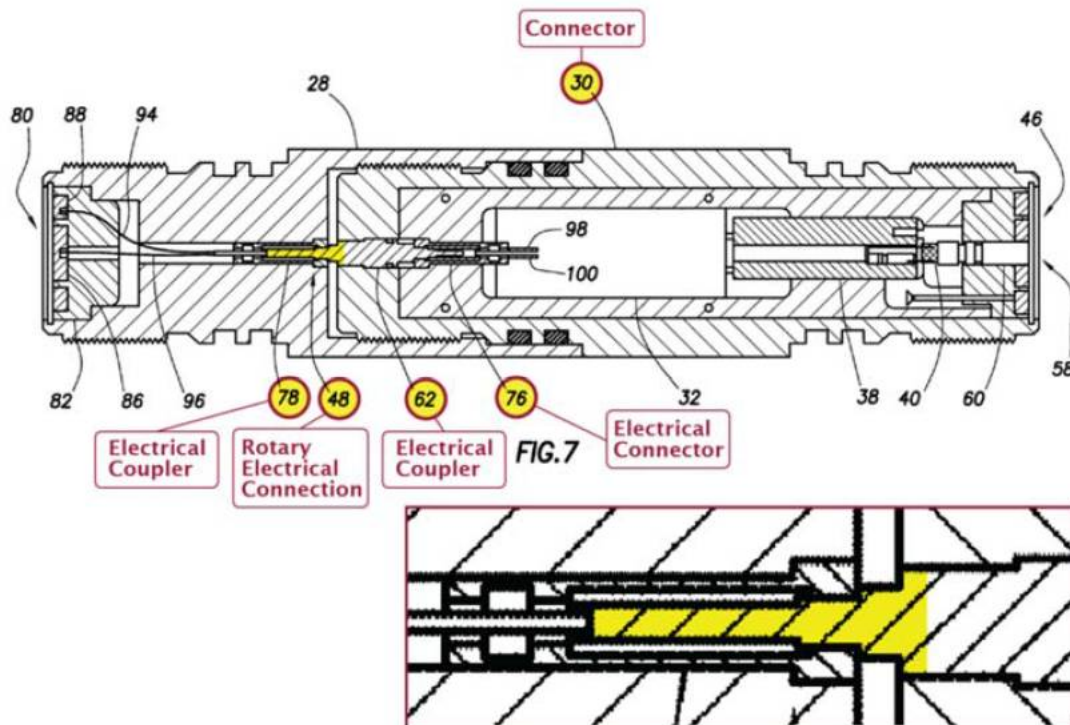
122. The August 21, 2019 Final Written Decision in IPR2018-00600 discussed uncontested limitations, including that DynaEnergetics did not dispute “that Schacherer’s detonator assembly includes “electrical contact components” having “line-in,” “lineout,” and “ground” portions.” The Final Written decision further stated that “The record fully supports Hunting Titan’s showing of how Schacherer discloses these uncontested limitations.” This discussion is material to the ‘938 Patent claims’ “a wireless signal-in connector, a wireless through wire connector, and a wireless ground contact connector.”

123. The August 21, 2019 Final Written Decision in IPR2018-00600 discussed “an insulator positioned between the line-in portion and the lineout portion,” and how the Schacherer ‘223 Reference taught it. This discussion is material to the ‘938 Patent claims’ “an insulator electrically isolating the wireless signal-in connector from the wireless through wire connector.”

124. The Examiner would not have allowed any claims of the ‘938 Patent if they realized that they were not limited to looking only at item 84 of Schacherer to meet the bulkhead limitation, only at “outer housing 26” to meet the tandem seal adapter limitation, and only at item 46 to meet the wireless ground contact connector limitation.

125. The Examiner thought that Schacherer did not disclose a wireless ground portion in contact with a tandem seal adapter because they thought that only the large contacts shown in Figure 3 of Schacherer were wireless electrical contacts. This meant that the Examiner was looking ONLY outside of the items shown in Figure 4 of Schacherer to find a bulkhead, tandem adapter, and associated wireless contacts.

126. The Final Written Decision (IPR2018-00600) explained as follows:



As shown in annotated Figure 7 above, the electrical contact component in Schacherer's detonator assembly includes both electrical coupler 62 and electrical connector 76, both of which are sealed within connector 30, i.e., the shell. Hunting Titan's expert confirms as much. Ex. 1006 ¶¶ 35–37. Importantly, when connector 30 “is threaded into the connector 28” of the perforating gun assembly, an electrical signal can be transmitted from the perforating gun to selective firing module 32 residing within Schacherer's detonator assembly. Ex. 1002, 5:54–56.

DynaEnergetics' assertion that only coupler 76 forms the line-in portion of Schacherer's detonator assembly contradicts Schacherer's plain disclosure that electrical coupler 62 together with electrical contact 76 form not only the male-to-female electrical connection

48 with the perforating gun assembly 26, 28, but also the “line-in” to selective firing module 32.

127. The Final Written Decision’s determinations on this point were based on the evidence and arguments in the Petition, Petitioner’s Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and the Transcript of Oral Hearing (IPR2018-00600, Papers, 1, 24, 25, 33, and 41).

128. Item 62 in Figure 7 of the Schacherer ‘223 Reference is a bulkhead, items 28, 78, 82 and others constitute a tandem seal adapter, and the ground contact is in electrical communication with the tandem seal adapter through at least rotary electrical connection 48 as claimed in the ‘938 Patent.

129. If the Examiner had the benefit of the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) then they would have known that the claims in the ‘938 Patent were unpatentable because item 62 in Schacherer Figure 7 is a bulkhead, items 28, 78, 82 and others constitute a tandem seal adapter, and the ground contact is in electrical communication with the tandem seal adapter through at least rotary electrical connection 48 as claimed in the ‘938 Patent.

130. As the ‘938 Patent Application Examiner and the PTAB found, all remaining elements at least claim 1 of the ‘938 Patent are claimed in the ‘422 Patent, or Plaintiffs’ proposed amended claims, and anticipated by Schacherer.

131. The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the

knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer.

132. The ‘938 Patent Application Examiner’s patentability analysis was premised on a narrow reading of Schacherer. If the Examiner had known about the Final Written Decision and the PTAB’s understanding that ALL claims proposed by Plaintiffs were unpatentable, then the Examiner would have viewed the teachings of Schacherer differently throughout the analysis.

133. The Final written decision (IPR2018-00600, Paper 42) explicitly held that the virtually identical detonator limitations in the ‘422 claims were described in Schacherer and were uncontested by Plaintiffs:

At the outset, we note that DynaEnergetics neither refutes nor responds to Hunting Titan’s showing that Schacherer teaches a “detonator assembly” for “being... received within a perforating gun assembly.” As recited in the preamble of Claim 1...

In sum, we conclude that Hunting Titan has met its burden of proving that Schacherer discloses a “detonator assembly” that is (1) “received within a perforating gun,” (2) has “more than one electrical contact component, wherein at least one of the electrical contact components... comprises an electrically contactable line-in portion,... line-out portion and ground portion,” and (3) has “means for selective detonation,” as recited in representative claim 1.

(Ex. 4, Final Written Decision, IPR Paper 42, pp. 9-10).

134. The Final Written Decision (IPR2018-00600, Paper 42) expressly found that, “DynaEnergetics acknowledges that ‘[c]onnecting a detonator using electrical contacts rather than manual wiring . . .’ is the entire essence of the invention claimed in the ‘422 Patent.”

135. Nothing before the ‘938 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs’ arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or

the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

136. The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

137. The Plaintiffs intentionally withheld references showing their acknowledgements and uncontested claim interpretations that were inconsistent with the Examiner’s understanding of the Schacherer ‘223 Reference.

138. The elements of claim 1 of the ‘938 Patent map to the ‘422 Patent and proposed amended claims as follows:

‘938 claim 1	‘422 claims and specification
1. A perforating gun, comprising:	‘422 Patent, 9:10
an outer gun carrier;	IPR Motion to Amend, p. 27, 36.
a charge holder positioned within the outer gun carrier and including at least one shaped charge;	IPR Motion to Amend, p. 27, 36.
a detonator contained entirely within the outer gun carrier,	IPR Motion to Amend, p. 27, 39.
the detonator including a detonator body containing detonator components,	‘422 Patent, 8:43-44, 9:17-18.
a wireless signal-in connector, a wireless through wire connector, and a wireless ground contact connector,	‘422 Patent, 8:48-54, 9:22-28.
and	
an insulator electrically isolating the wireless	‘422 Patent, 8:55-57, 9:29-31.

‘938 claim 1	‘422 claims and specification
signal-in connector from the wireless through wire connector; and,	
a bulkhead, wherein the bulkhead includes a contact pin in wireless electrical contact with the wireless signal-in connector,	‘422 Patent, 6:25-33.
Wherein at least a portion of the bulkhead is contained within a tandem seal adapter, and	‘422 Patent, 6:25-33.
the wireless ground contact connector is in wireless electrical contact with the tandem seal adapter.	‘422 Patent, 6:25-33.

139. Instead of providing the critical analysis and determinations regarding the prior art contained in the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), Plaintiffs left the ‘938 Patent Application Examiner with their own briefing.

140. Nothing before the ‘161 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs’ arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

141. The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings

of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the '938 Patent Application Examiner.

142. The Plaintiffs intentionally withheld their acknowledgements and uncontested claim interpretations that were inconsistent with the Examiner's understanding of the Schacherer '223 Reference.

143. Because the '938 Patent Application Examiner did not have the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), they were left with Plaintiffs' patentability arguments, but not the information that refutes, or is inconsistent with, those patentability arguments.

144. The Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) are not cumulative to the other references cited during prosecution of the '161 or '938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the '161 and '938 Patents.

'161 Patent Materiality

145. The '161 Patent in this case and the '422 Patent in the IPR describe and claim nearly identical systems and use at least one identical figure.

146. Each element of claim 20 of the '161 Patent corresponds to structurally and functionally equivalent elements in the claims of the '422 Patent, including Plaintiffs' proposed amended claims during the IPR.

147. The following chart shows that each element of claim 20 of the '161 Patent corresponds to structurally and functionally equivalent elements in the claims of the '422 Patent, including Plaintiffs' proposed amended claims during the IPR.

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
A perforation gun system comprising:	A perforating gun assembly, comprising:	'422 Patent, 9:10.
A gun carrier	a perforating gun housing	IPR2018-00600, Paper 21, Claims Appendix, page i.
a first connector for providing energetic coupling between a detonator and a detonation cord,	<p>a detonator positioning assembly within the perforating gun assembly</p> <p>positioning the wirelessly-connectable selective detonator assembly within the detonator positioning assembly</p> <p>positioning a detonating cord within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly</p> <p>initiating the detonating cord without the detonating cord having to be attached to the detonator assembly</p>	'422 Patent, 10:39-52.
the first connector positioned in the gun carrier	<p>a wirelessly-connectable selective detonator assembly contained entirely within the perforating gun housing</p> <p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection within the perforating gun housing merely by</p>	IPR2018-00600, Paper 21, Claims Appendix, page i, ii.

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
	<p>contact;</p> <p>the detonator assembly is configured for electrically contactably forming the electrical connection within the perforating gun housing merely by the contact and without the need of manually and physically connecting wires.</p> <p>a detonating cord positioned within the perforating gun housing such that at least a portion of the detonating cord is in contact with the detonator assembly</p>	
<p>at least one second connector positioned in the gun carrier spaced apart from the first connector, wherein the second connector is configured for terminating the detonation cord in the perforation gun system,</p>	<p>a carrying device positioned within the perforating gun housing and configured for holding at least one shaped charge</p> <p>a detonating cord positioned within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly.</p> <p>positioning a detonating cord within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly.</p>	<p>IPR2018-00600, Paper 21, Claims Appendix, page i.</p> <p>'422 Patent, 9:51-53, 10:45-47.</p>
<p>wherein at least one of the first and second connectors receive electrical connections therethrough.</p>	<p>A wireless detonator assembly configured for being electrically contactably received within a perforating gun assembly without using a wired electrical connection</p> <p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection merely by contact</p>	<p>'422 Patent, 8:39-41, 51-54, 59-61.</p>

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
	<p>wherein the detonator assembly is configured for electrically contactably forming the electrical connection merely by the contact</p> <p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection within the perforating gun housing merely by contact;</p> <p>the detonator assembly is configured for electrically contactably forming the electrical connection within the perforating gun housing merely by the contact and without the need of manually and physically connecting wires.</p>	<p>IPR2018-00600, Paper 21, Claims Appendix, page i, ii.</p>

148. The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the Schacherer '223 Reference's teachings regarding components "entirely within the perforating gun housing." That discussion is material to at least the claim terms "a gun carrier," "within the gun carrier," "in the gun carrier," and "in the perforating gun system," in the '161 Patent claims.

149. Every element of '161 Patent Claim 20 corresponds to structurally and functionally equivalent elements in the claims of the '422 Patent that the Final Written Decision (IPR2018-00600, Paper 42) found anticipated by Schacherer. Therefore, the Final Written decision found every element of claim 20 of the '161 Patent in Schacherer, rendering it anticipated.

150. If the Examiner had known that the Final Written Decision (IPR2018-00600, Paper 42) had found every element of claim 20 in Schacherer, then claim 20 would not have issued.

151. Figure 18 of the ‘161 and ‘938 Patents is identical to Figure 6 of the ‘422 Patent, other than differences in reference numerals.

152. The ‘422 Patent describes this drawing, ‘422 Patent Figure 6, as “a perspective view of the detonator positioning assembly.” (‘422 Patent, 3:9-10).

153. The ‘161 Patent describes this same drawing, ‘161 Patent Figure 18, as “a rear perspective view of the top connector.” (‘161 Patent, 4:21). The ‘422 Patent claims this “detonator positioning assembly” and the ‘161 Patent claims this “top connector” as “a first connector.” (‘422 Patent, 10:39-52; ‘161 Patent, 10:37, 12:43; 3/11/2019 Response to Office Action, p. 2 (amending “at least one top connector” to “a first connector.”)). Therefore, the ‘161 and ‘938 Patents describe, depict, and claim the same structures.

154. The Final Written Decision (IPR2018-00600, Paper 42) explains that, despite Plaintiffs arguing to the contrary, that Schacherer teaches and it is well known in the art to have perforating components contained entirely within an outer housing.

155. The Final written Decision (IPR2018-00600, Paper 42) found that the prior art taught at least the following components in the housing: a detonator, a detonating cord, one or more charges. ‘161 Patent claim 20 includes the limitation “the first connector positioned in the gun carrier,” and “at least one second connector positioned in the gun carrier.” Therefore, the PTAB Final Written Decision provides critical interpretation of the meaning of the terms used in the claims of the ‘161 Patent.

156. Plaintiffs argued in the IPR that their amended claims were patentable based on an “entirely within the perforating gun housing” limitation, an argument the PTAB rejected in the Final Written Decision (IPR2018-00600, Paper 42). This same limitation is inherent in ‘161

Patent Claim 20. Therefore, the Final Written decision would have shown the ‘161 Patent Examiner that limitation was taught by The Schacherer ‘223 Reference.

157. The Final Written Decision’s determinations of unpatentability and the teachings of the prior art were based on the evidence and arguments in the Petition, Petitioner’s Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and the Transcript of Oral Hearing (IPR2018-00600, Papers, 1, 24, 25, 33, and 41).

158. Plaintiffs and Applicant did not provide the ‘161 Patent Application Examiner with the critical analysis and determinations regarding the prior art contained in the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42).

159. Nothing before the ‘161 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs’ arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘161 Patent Application Examiner.

160. The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or

the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘161 Patent Application Examiner.

161. The Plaintiffs intentionally withheld their acknowledgements and uncontested claim interpretations that were inconsistent with the ‘161 Patent Application Examiner’s understanding of the Schacherer ‘223 Reference.

162. The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) are not cumulative to the other references cited during prosecution of the ‘161 or ‘938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the ‘161 and ‘938 Patents.

163. The August 21, 2019 Final Written Decision in IPR2018-00600 is not cumulative to the other references cited during prosecution of the ‘161 or ‘938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the ‘161 and ‘938 Patents.

Intent

164. On March 20, 2019, the Applicant submitted an IDS to the ‘938 Patent Application Examiner listing 72 US Patents, 25 US Applications, 9 Foreign Patent Documents, and 8 non-patent documents. (Dkt. 26-3, 3/20/2019 IDS).

165. On March 25, 2019, the Applicant submitted an IDS to the ‘938 Patent Application Examiner disclosing 29 non-patent documents. (Dkt. 26-4, 3/25/2019 IDS).

166. On June 20, 2019, the Applicant submitted a third and final IDS to the ‘938 Patent Application Examiner listing a single Indian Office Action. (Ex. 10, 6/20/2019 IDS).

167. The Applicant submitted 144 references in the ‘938 Patent Application.

168. The Applicant submitted to the ‘938 Patent Application Examiner 126 pages of their own briefing from IPR2018-00600, but not the Final Written Decision or the Petitioner’s opposition to that briefing.

169. When the PTAB issued its Final Written Decision on August 20, 2019, the ‘938 Patent Application stood rejected.

170. On September 6, 2019, Jason Rockman discussed the ‘938 Patent Application with the Examiner and argued for the ‘938 Patent to issue, but did not tell the Examiner about the PTAB’s Final Written Decision (IPR2018-00600).

171. The Applicant copied claim language into the ‘938 Patent Application from the ‘422 Patent.

172. The ‘938 Patent directly incorporates claim limitations from the Houston case’s ‘422 Patent that are not mentioned in the ‘938 specification.

173. Every asserted claim of the ‘938 Patent includes the word “wireless,” which does not appear anywhere in the ‘938 specification.

174. The term “wireless” was defined and discussed at length and in the specification and claims of ‘422 Patent.

175. The term “wireless” was also central to the analysis of the prior art and patentability in the Final Written Decision (IPR2018-00600, Paper 42).

176. Seven of ten limitations in ‘938 Patent, claim 1 are in the claims of the ‘422 Patent in the Houston case as issued or in the proposed amended claims in the IPR. The remaining three elements are standard claim terms that are described in the ‘422 specification and well known in the art.

177. Claim 12 of the '938 Patent is entirely composed of claim limitations that are not mentioned in the '938 specification, but are almost verbatim copied from claim 1 of the '422 Patent as shown below.

'938 Claim 12	'938 Specification	'422 Claim 1
12. The modular detonator of claim 9, wherein		
the modular detonator is <u>configured for being electrically contactably received</u> within the gun assembly of the perforating gun system <u>without using a wired electrical connection</u> , and	Not present	A wireless detonator assembly <u>configured for being electrically contactably received</u> within a perforating gun assembly <u>without using a wired electrical connection</u>
the wireless signal-in connector, the wireless through-wire connector, and the wireless ground contact connector together are	Not present	The ground portion in combination with the line-in portion and the line-out portion being
configured to replace the wired electrical connection and to complete an electrical connection merely by contact.	Not present	configured to replace the wired electrical connection to complete an electrical connection merely by contact

178. The '422 Patent incorporates by reference Canadian Patent Application No. 2,824,838 filed Aug. 26, 2013, entitled PERFORATION GUN COMPONENTS AND SYSTEM. The '161 and '938 Patents both claim priority to that Canadian Application.

179. That incorporation by reference acknowledges the close relation between the '161 and '938 Patents and the '422 Patent and that those responsible for prosecuting the '422 Patent, including at least Lisa Moyles and Janelle Bailey were aware of the close relationship of these patent applications and the likely materiality of any prior art references from one application to another.

180. Plaintiffs and their counsel have shown a pattern of lack of candor, including repeatedly making factual representations contrary to the true information they had in their possession.

181. The PTAB found in its Institution Decision and Final written Decision (IPR2018-00600, Paper 10, 42) that, Plaintiffs:

- “Ignore[d] the express teachings of Schacherer and the relevant knowledge in the art.”
- Ignored the “clear disclosure in the ‘422 Patent [that] amounts to an admission.”
- “Oversimplifies what constitutes Schacherer’s detonator assembly and ignores the express language of the claim.”
- “Rather than acknowledge the plain language of the claim, [Patent Owner] distorts the testimony.”
- Failed to provide “support, intrinsic or otherwise, for [Patent Owner’s] argument.”
- Presented an argument that was “nothing more than semantics.”
- “Contradicts Schacherer’s plain disclosure.”

182. The March 14, 2018 IDS disclosing the publication of the Schacherer ‘223 Reference in the ‘161 Patent Application indicates that those responsible for prosecuting the ‘161 Patent application knew that IPR2018-00600 was material to the claims at issue at that time.

183. The March 14, 2018 IDS disclosing the publication of the Schacherer ‘223 Reference in the ‘161 Patent Application indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

184. The March 20, 2019 and March 25, 2019 IDS filings in the ‘938 Patent Application indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

185. The March 20, 2019 and March 25, 2019 IDS filings in the ‘938 Patent Application indicates that those responsible for prosecuting that application knew that IPR2018-00600 was material to the claims at issue at that time.

186. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Institution Decision, Paper 10, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than March 25, 2019.

187. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Final Written Decision, Paper 42, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than September 11, 2019.

188. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Transcript of Oral Hearing, Paper 41, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than September 11, 2019.

189. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners responsive briefing, Papers 24 and 25 in IPR 2018-00600 were material to the patentability of the claims pursued in the ‘938 Patent Application no later than March 25, 2019.

190. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners Sur-Reply on Patent Owner's Motion to Amend, Paper 33 in IPR 2018-00600, was material to the patentability of the claims pursued in the '938 Patent Application no later than September 11, 2019.

191. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Institution Decision, Paper 10, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

192. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Final Written Decision, Paper 42, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

193. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Transcript of Oral Hearing, Paper 41, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

194. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners responsive briefing, Papers 24 and 25, in IPR 2018-00600 were material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

195. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners Sur-Reply on Patent

Owner's Motion to Amend, Paper 33 in IPR 2018-00600, was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

196. Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petition in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

197. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the August 20, 2019 Final Written Decision (IPR2018-00600, Paper 42) in the '161 Patent Application or '938 Patent Application.

198. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Transcript of Oral Hearing (IPR2018-00600, Paper 41) in the '161 Patent Application or '938 Patent Application.

199. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Petitioners responsive briefing (IPR2018-00600, Papers 24, 25) in the '161 Patent Application or '938 Patent Application.

200. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Institution Decision (IPR2018-00600, Paper 10) in the '161 Patent Application.

201. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Petition for Inter Partes Review in IPR2018-00600 in the '161 Patent Application.

202. None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed Petitioner's Sur-Reply on Patent Owner's Motion to Amend (IPR2018-00600, Paper 33) in the '161 Patent Application or '938 Patent Application.

203. The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed the August 21, 2019 Final Written Decision in IPR2018-00600.

204. The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed the Transcript of Oral Hearing (IPR2018-00600, Paper 41).

205. The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed Petitioners responsive briefing (IPR2018-00600, Papers 24, 25).

206. The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed Petitioner's Sur-Reply on Patent Owner's Motion to Amend (IPR2018-00600, Paper 33).

207. The Examiner would not have allowed the '161 Patent to issue if they had reviewed the Institution Decision (IPR2018-00600, Paper 10).

208. The Examiner would not have allowed the '161 Patent to issue if they had reviewed the Petition for Inter Partes Review in IPR2018-00600.

209. On information and belief, Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents

with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board so that unduly broad claims would issue.

210. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the close relationship of the subject matter of the '422 Patent and the '161 and '938 Patents while they were actively involved in the prosecution of the IPR and the applications resulting in the '161 and '938 Patents.

211. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the IPR Briefing, Oral Hearing, and Final Written Decision discussed nearly identical claim limitations.

212. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing

(IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they disclosed some, but not all materials from IPR2018-00600, to some, but not all of, the Examiners.

213. The '161 and '938 Patents are unenforceable because they were procured through inequitable conduct before the USPTO because Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves knew of the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) and other materials from the IPR and that they were material to the claims of the '161 and '938 Patents during prosecution of the patents and, on information and belief, they intentionally withheld them from the Patent Examiners with specific intent to deceive the Patent Examiners.

214. On information and belief, Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the '161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board so that unduly broad claims would issue.

215. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the '161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the close relationship of the

subject matter of the ‘422 Patent and the ‘161 Patent while they were actively involved in the prosecution of the IPR and the ‘161 Patent Application.

216. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) discussed nearly identical claim limitations.

217. It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent Application with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they disclosed some, but not all materials from IPR2018-00600, to the ‘938 Patent Application Examiner, but not to the ‘161 Patent Application Examiner.

218. The ‘161 Patent is unenforceable because they were procured through inequitable conduct before the USPTO because Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves knew of the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) and other materials from the IPR and that they were material to the claims of the ‘161 Patent during prosecution of the patents and, on information and belief, they intentionally withheld them from the Patent Examiner with specific intent to deceive the Patent Examiner.

[Schlumberger’s SafeJet Prior Art Perforating Gun](#)

219. Inventors Thilo Scharf, Frank Preiss, David Parks, Liam McNelis, and Christian Eitschberger committed inequitable conduct by intentionally omitting their use of Schlumberger's SafeJet perforating gun as the basis for the invention of the Asserted Patents. Further, these individuals committed inequitable conduct by intentionally omitting a 2011 presentation regarding the SafeJet system that Mr. Scharf gave to Schlumberger's customers while he was still employed at Schlumberger from the examiner.

220. Before Thilo Scharf worked for Plaintiffs, he worked for Schlumberger as a "perforating domain champion" and was considered an expert in perforating by his colleagues. Sometime in 2011, Mr. Scharf gave a presentation on the SafeJet perforating gun while working at Schlumberger to Schlumberger's customers, with his name shown on the front cover.

221. When he went to work for Plaintiffs in August 2011, Mr. Scharf brought a copy of this presentation with him on a USB drive, along with 13 other PDF files he obtained while working for Schlumberger.

222. Mr. Scharf wanted to show his boss "what was going on in the industry and other markets," so he gave this USB drive to Frank Preiss.

223. Mr. Preiss contacted David Parks in February 2012 to discuss Plaintiffs hiring his company, JDP Engineering & Machine, to develop a new perforating gun.

224. Shortly after, a "Request for Proposal" sent from Mr. Parks' e-mail in March 2012 shows that he agreed to "provide a prototype carrier system **based on a photo** and Features List."

225. In April 2012, Mr. Preiss then gave Mr. Parks a "high resolution picture of the existing injection molded system that originated with Thilo" from "a pdf file that I [Mr. Preiss] am not supposed to have a copy from."

226. While none of the inventors remember what this photograph shows, the only photograph that Mr. Preiss had in his paper files showed the SafeJet gun taken from the same presentation he received from Mr. Scharf.

227. None of the inventors could identify any injection molded perforating gun they considered other than the SafeJet perforating gun that originated with Thilo Scharf.

228. In October 2015 (and before prosecution of the Asserted Patents), Mr. Scharf sent the 2011 SafeJet presentation to eight other employees with Plaintiffs, including to inventors Liam McNelis and Christian Eitschberger, as well as Plaintiffs' President, Ian Grieves.

229. In that e-mail, Mr. Scharf stated that he was "very familiar" with the SafeJet system.

230. He stated that the SafeJet "gun is fully disposable with single o-ring seals and gun to gun threads."

231. He further stated that "[t]he system when originally introduced in 2011 was deemed too expensive and was only ever run in small quantities in the North Sea."

232. On March 20, 2019, Plaintiffs filed U.S. Patent Application No. 16/359,540 (the '938 Patent application).

233. On March 25, 2019, Plaintiffs submitted an information disclosure statement during prosecution of the '938 Patent that included a 2012 presentation on Schlumberger's SafeJet perforating gun from Amit Govil.

234. Similar to Mr. Scharf, Mr. Govil was also a perforating domain champion at Schlumberger.

235. Despite their knowledge of the 2011 SafeJet presentation from Thilo Scharf, none of the inventors (nor Plaintiffs' President, Ian Grieves) disclosed the 2011 SafeJet presentation to the examiner during prosecution.

236. Further, none of the inventors disclosed the fact that lead inventor David Parks used a picture of the SafeJet perforating gun as a basis to develop the inventions of the Asserted Patents.

237. These omissions were material to the proposed claims because the examiner found that the proposed "tandem seal adapter" limitations were the point of novelty over the prior art.

238. On May 3, 2019, the examiner rejected the proposed claims as anticipated by Lerche and Schacherer, including the claimed "bulkhead," finding that "Schacherer further discloses a bulkhead (connector 84, see Fig. 5)."

239. The Examiner found that dependent claim 6 would be allowable because "the prior art fails to anticipate or make obvious . . . wherein at least a portion of the bulkhead is contained within a tandem seal adapter." Specifically, "Schacherer is considered to most relevant known prior art who discloses a bulkhead 84 that is contained within an outer housing 26 of the perforating gun."

240. As Thilo Scharf admitted during his deposition, the Schlumberger SafeJet perforating gun includes a "tandem isolation assembly," which is the same thing as a "tandem seal adapter."

241. But for Plaintiffs' failure to disclose the 2011 SafeJet presentation, Mr. Scharf's involvement in the SafeJet gun while at Schlumberger, and Mr. Parks' use of the SafeJet gun to develop the Asserted Patents, the examiner would not have granted the claims of the '938 Patent.

242. Had the examiner known that Mr. Scharf was involved with the prior art SafeJet gun, that the SafeJet gun included the alleged point of novelty, and that Mr. Parks used the SafeJet

gun to develop the Asserted Patents, the examiner would not have allowed the proposed claims under 35 U.S.C. § 103 as an obvious modification over the prior art.

243. The inventors knew the SafeJet perforating gun was material because they disclosed the 2012 presentation from Amit Govil to the examiner.

244. The inventors intended to deceive the examiner by omitting Mr. Scharf's 2011 SafeJet presentation during prosecution. This presentation had Mr. Scharf's name on the front cover and would have disclosed Mr. Scharf's involvement in the prior art gun to the examiner had it been disclosed.

Sixth Affirmative Defense

245. ~~219.~~ Plaintiffs' claims for relief and prayer for damages are barred in whole or in part by the equitable doctrines of laches, waiver, and equitable estoppel.

Seventh Affirmative Defense

246. ~~220.~~ Plaintiffs' claims for relief and prayer for damages are barred under the equitable doctrine of unclean hands.

Eighth Affirmative Defense

247. ~~221.~~ Plaintiffs lack standing to bring this action because they are not or were not the owners of all right and title to the '161 Patent or the '938 Patent at the time this lawsuit was filed.

Ninth Affirmative Defense

248. ~~222.~~ Plaintiffs have failed to join an indispensable party or parties to the present action.

COUNTERCLAIMS

249. ~~223.~~ Hunting Titan, Inc. ("Hunting Titan") brings the following counterclaims against Plaintiffs:

JURISDICTION AND VENUE

250. ~~224.~~ This is an action for declaratory relief. This Court has jurisdiction over the counterclaims based on 28 U.S.C. §§ 1331, 1338(a), 2201, and 2202.

251. ~~225.~~ Venue is proper under 28 U.S.C. §§ 1391(b) and 1400(b).

PARTIES

252. ~~226.~~ Hunting Titan, Inc. is a Texas corporation with a principal place of business at 11785 Highway 152, Pampa, Texas 79065.

253. ~~227.~~ On information and belief, DynaEnergetics Europe GmbH (“DynaEnergetics Europe”) is a corporation organized under the laws of Germany, with its headquarters at Kaiserstrasse 3, 53840 Troisdorf, Germany.

254. ~~228.~~ On information and belief, DynaEnergetics US, Inc. (“DynaEnergetics US”) is a corporation organized under the laws of the State of Colorado, with its headquarters at 2050 W. Sam Houston Pkwy S., Suite 1750, Houston, TX 77042-3659.

255. ~~229.~~ DynaEnergetics Europe GmbH and DynaEnergetics US, Inc. (collectively, “DynaEnergetics”) have submitted themselves to the personal jurisdiction of this Court by filing their Complaint in this Court alleging infringement of the ‘161 Patent and ‘938 Patent and have likewise conceded that venue here is proper for the resolution of claims such as Hunting Titan’s Counterclaims.

First Counterclaim — Declaratory Judgment (Non-Infringement)

256. ~~230.~~ Hunting Titan repeats and realleges each and every allegation contained in Paragraphs 41 - 228 of the Affirmative Defenses and Counterclaims as if fully set forth herein.

257. ~~231.~~ DynaEnergetics alleges ownership of the ‘161 and ‘938 Patents, and has brought suit against Hunting Titan alleging infringement of the ‘161 and ‘938 Patents.

258. ~~232.~~ Hunting Titan has not and does not infringe the ‘161 or ‘938 Patents, either directly or indirectly, literally or under the doctrine of equivalents. Hunting Titan has not contributed to any infringement by others or induced others to infringe any valid claim of the ‘161 or ‘938 Patents.

259. ~~233.~~—An actual case or controversy exists between Hunting Titan and DynaEnergetics based on DynaEnergetics having filed a Complaint against Hunting Titan alleging infringement of the ‘161 and ‘938 Patents.

260. ~~234.~~ Hunting Titan has been injured and damaged by DynaEnergetics having filed a Complaint asserting a patent that is not infringed by Hunting Titan.

261. ~~235.~~ Declaratory relief is appropriate and necessary to establish that Hunting Titan does not infringe any valid claim of the ‘161 or ‘938 Patents.

Second Counterclaim — Declaratory Judgment (Invalidity)

262. ~~236.~~ Hunting Titan repeats and realleges each and every allegation contained in Paragraphs 41 - 234 of the Affirmative Defenses and Counterclaims as if fully set forth herein.

263. ~~237.~~ The ‘161 Patent and ‘938 Patents are invalid for failure to comply with or satisfy the requirements and/or conditions of patentability as specified under one or more sections of Title 35 of the United States Code, including, without limitation, 35 U.S.C. §§ 102, 103, and/or 112.

264. ~~238.~~ All elements of at least claim 20 of the ‘161 Patent and at least claim 1 of the ‘938 Patent are taught by or obvious to a person of ordinary skill in the art in view of prior art patent applications and publications, including but not limited to United States Patent Nos. 9,689,223, 9,080,433, 8,451,137, 8,091,477, 7,347,278, 5,347,929, 5,159,146, and 4,744,424, and United States Patent Publications 2016/0084048, 2015/0330192, 2012/0247771, 2009/0272529,

and 2008/0149338. This is shown in the attached Final Written Decision, Case No. IPR 2018-00600, attached as Exhibit A, and Petition for Inter Partes Review, Case No. IPR 2018-00600, attached as Exhibit B. At least claim 20 of the ‘161 Patent and at least claim 1 of the ‘938 Patent are not patentably distinct from the claims at issue in IPR2018-00600. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 102 and/or 103.

265. ~~239.~~ The alleged invention of at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent was in public use, on sale, or otherwise available to the public before the effective filing date through at least Baker Hughes’ “SurePerf” system and associated services as described in Exhibits C and D. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 102.

266. ~~240.~~ Any differences between the invention of at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent and Baker Hughes’ “SurePerf” system and associated services as described in Exhibits C and D are such that the claimed invention as a whole would have been obvious to a person of ordinary skill in the art. Therefore, at least claim 20 of the ‘161 Patent and claim 1 of the ‘938 Patent are invalid under 35 U.S.C. § 103.

267. ~~241.~~ The ‘161 Patent fails to provide an enabling disclosure or a written description for at least “terminating a/the detonation cord in the perforation gun system,” “a first connector for providing energetic coupling between a detonator and a detonation cord,” and “wherein at least one of the first and second connectors receive electrical connections therethrough,” as claimed. The ‘161 Patent does not describe how to make or use a device for terminating a detonation cord in a perforation gun system, providing energetic coupling between a detonator and a detonation cord, or wherein at least one of the first and second connectors receive electrical connections

therethrough, in sufficient detail for a person of ordinary skill in the art to make and use the invention. Therefore, all claims of the '161 Patent are invalid under 35 U.S.C. § 112.

268. ~~242.~~ The '161 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, for at least the claim language “a first connector for providing energetic coupling between a detonator and a detonation cord,” “wherein at least one of the first and second connectors receive electrical connections therethrough,” and “at least one second connector ... for terminating a detonation cord in the perforation gun system,” as claimed in all claims. The claim language and specification are silent on what “energetic coupling between a detonator and a detonation cord” is or any examples of how it may be achieved structurally. This claim language requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. The claim language “wherein at least one of the first and second connectors receive electrical connections therethrough,” is not clear in that “terminating a detonation cord in the perforation gun system” is undefined and requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. The claim language “at least one second connector ... for terminating a detonation cord in the perforation gun system,” is not clear in that “terminating a detonation cord in the perforation gun system” is undefined and requires the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. Therefore, all claims of the '161 Patent are invalid under 35 U.S.C. § 112.

269. ~~243.~~ The '938 Patent fails to provide an enabling disclosure or a written description for at least "wireless signal in connector," "wireless ground contact connector," "wireless through wire connector," or "wireless electrical contact" as claimed. The '938 Patent does not describe how to make or use a those items in sufficient detail for a person of ordinary skill in the art to make and use the invention. Therefore, all claims of the '938 Patent are invalid under 35 U.S.C. § 112.

270. ~~244.~~ The '938 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, for at least the claim language "a tandem seal adapter," "bulkhead," and "wireless" as claimed. The claim language is not clear in that these terms are undefined and require the public to guess at what the patentee meant by the claim language and alleges to claim a structure solely by the function it performs without describing structure to perform that function. Therefore, all claims of the '938 Patent are invalid under 35 U.S.C. § 112.

271. ~~245.~~ The '938 Patent fails to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention, because the claims provide no structural relationship between the "charge holder," "detonator," "bulkhead," and "tandem seal adapter."

272. ~~246.~~ The Defendant reserves the right to assert any other basis for invalidity, or any other defense, that discovery may reveal.

273. ~~247.~~—An actual case or controversy exists between Hunting Titan and DynaEnergetics based on DynaEnergetics having filed a Complaint against Hunting Titan alleging infringement of the '161 and '938 Patents.

274. ~~248.~~ Hunting Titan has been injured and damaged by DynaEnergetics having filed the Complaint asserting an invalid and/or unenforceable patent.

275. ~~249.~~ Declaratory relief is appropriate and necessary to establish that the ‘161 and ‘938 Patents are invalid.

Third Counterclaim — Declaratory Judgment (Unenforceability)

276. ~~250.~~ Hunting Titan repeats and realleges each and every allegation contained in Paragraphs 41 - 248 of the Affirmative Defenses and Counterclaims as if fully set forth herein.

277. ~~251.~~ The ‘161 and ‘938 Patents are unenforceable because they were procured through inequitable conduct before the USPTO.

‘161 Patent Prosecution:

278. ~~252.~~ The application resulting in the ‘161 Patent was filed on June 8, 2017 as Application No. 15/617,344 (The ‘161 Patent Application).

279. ~~253.~~ On March 14, 2018, the applicant filed an Information Disclosure Statement (IDS) in the application resulting in the ‘161 Patent. That IDS disclosed US publication 20120247769 to Schacherer.

280. ~~254.~~ The March 14, 2018 IDS in the ‘161 Application was submitted by Janelle A. Bailey.

281. ~~255.~~ US Publication 2012/0247769 to Schacherer is the original publication of the application that lead to United States Patent No. 9,689,223 (“the Schacherer ‘223 Reference”).

282. ~~256.~~ On March 11, 2019, the Applicant amended the claims and added new claims in the application resulting in the ‘161 Patent. One of those new claims was the now asserted claim 20.

283. ~~257.~~ None of the briefing, orders, expert reports, or other filings in IPR2018-00600 were ever disclosed to the Examiner of the ‘161 Patent application.

284. ~~258.~~ On February 15, 2019, the Applicant filed an IDS in the ‘161 Patent Application disclosing US Patent No. 10,077,641 (Rogman) and United States Patent Application No. 20160084048 (Harrigan) to the Examiner.

285. ~~259.~~ On March 11, 2019, the Plaintiffs amended the ‘161 Patent Application to add claim 20.

286. ~~260.~~ Claim 20 is broader in scope than any other claim in the ‘161 Patent.

287. ~~261.~~ On March 25, 2019, the United States Patent and Trademark Office (USPTO) sent a notice of allowance in the ‘161 Patent Application.

288. ~~262.~~ On April 8, 2019, Julie Banks conducted an interview with the Examiner of the ‘161 Patent Application.

289. ~~263.~~ The substance of that April 8, 2019 Interview was a request to confirm that the Examiner had considered the references submitted by the Applicant on Information Disclosure Statements.

290. ~~264.~~ On May 31, 2019, the United States Patent and Trademark Office (USPTO) sent another notice of allowance in the ‘161 Patent Application.

291. ~~265.~~ On September 4, 2019, the United States Patent and Trademark Office (USPTO) sent another notice of allowance in the ‘161 Patent Application.

292. ~~266.~~ On September 11, 2019, the USPTO sent an issue notification in the application resulting in the ‘161 Patent.

293. ~~267.~~ The application resulting in the ‘161 Patent was prosecuted by attorneys at Moyles IP, LLC, including Lisa Moyles, Caroline Mrohs, and Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey).

294. ~~268.~~ Ian Grieves signed a Power of Attorney for the application resulting in the ‘161 Patent on behalf of DynaEnergetics GmbH & Co. KG (the applicant).

‘938 Patent Prosecution:

295. ~~269.~~ The application resulting in the ‘938 Patent was filed on March 20, 2019 as Application No. 16/359,540 (The ‘938 Patent Application).

296. ~~270.~~ On March 20, 2019, the applicant in the ‘938 Patent Application filed an IDS disclosed some of the references from IPR2018-00600 in the application resulting in the ‘938 Patent.

297. ~~271.~~ The March 20, 2019 IDS disclosed the following references from IPR2018-00600: 1) U.S. Patent 7,347,278 (Lerche, et al.), 2) U.S. Patent 9,080,433 (Lanclos, et al.), 3) U.S. Patent 9,581,422 (Preiss, et al.), 4) U.S. Patent 9,689,223 (Schacherer, et al.), 5) U.S. Patent 8,451,137 (Bonavides, et al.), 6) U.S. Publication 2016/0084048 (Harrigan, et al.).

298. ~~272.~~ On March 25, 2019, the applicant in the ‘938 Patent Application filed an IDS disclosed some more of the references from IPR2018-00600 in the application resulting in the ‘938 Patent.

299. ~~273.~~ The March 25, 2019 IDS disclosed the following references from IPR2018-00600: 1) Hunting Titan Inc.’s Petition for Inter Parties Review of U.S. Patent No. 9,581,422, 2) Patent Owner’s Response to Hunting Titan’s Petition for Inter Parties Review, 3) Patent Owner’s Motion to Amend, 4) PTAB’s Institution of Inter Parties Review, 5) Schlumberger’s Presentation: Combining and Customizing Technologies for Perforating Horizontal Wells in Algeria, 2011, 6) Baker Hughes’ Presentation: Long Gun Deployment Systems Presentation, 2012, 7) and Owen Oil Tools’ Presentation: Recommended Practice for Oilfield Explosive Safety, 2011.

300. ~~274.~~ The March 20, 2019 and March 25, 2019 IDS filings in the application that resulted in the '938 Patent indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

301. ~~275.~~ The March 20, 2019 and March 25, 2019 IDS filings in the '938 Patent Application indicate that those responsible for prosecuting that application knew that IPR2018-00600 was material to the claims at issue at that time.

302. ~~276.~~ On May 21, 2019, the Applicant filed a response to office action in the '938 Patent Application.

303. ~~277.~~ In the May 21, 2019 response to office action, the claims in the '938 Patent Application were amended to recite: a "wireless signal-in connector" in place of a "wireless bulkhead connector portion" and a "wireless bulkhead connecting portion"; a "wireless through wire connector" in place of a "wireless through wire connecting portion"; and, a "wireless ground contact connector" in place of a "wireless ground portion."

304. ~~278.~~ The applicant said that those claim amendments did not materially change the scope of the claims in the '938 Patent Application.

305. ~~279.~~ In the May 21, 2019 response to office action in the '938 Patent Application, the applicant argued that allowable subject matter may be found variously in the claimed detonator including the claimed connectors/connecting portions in original Claims 1, 9, and 11.

306. ~~280.~~ The May 21, 2019 response to office action in the '938 Patent Application was signed by Jason Rockman.

307. ~~281.~~ On September 6, 2019, Jason Rockman, conducted an interview with the Examiner of the '938 Patent Application.

308. ~~282.~~ In that September 6, 2019 interview, Jason Rockman argued that that the proposed claims were patentable based on their priority claim.

309. ~~283.~~ On September 11, 2019, the USPTO sent a notice of allowance in the application resulting in the ‘938 Patent.

310. ~~284.~~ The Examiner stated that the claims of the ‘938 Patent were allowable because the Schacherer ‘223 Reference did not disclose “wherein at least a portion of the bulkhead is contained within a tandem seal adapter, and the wireless ground portion is in wireless electrical contact with the tandem seal adapter.”

311. ~~285.~~ The Examiner’s conclusion was based on the faulty understanding that they could look only at item 84 of Schacherer to meet the bulkhead limitation, only at “outer housing 26” to meet the tandem seal adapter limitation, and only at item 46 to meet the wireless ground contact connector limitation.

312. ~~286.~~ On October 23, 2019, the USPTO sent an issue notification in the application resulting in the ‘938 Patent.

313. ~~287.~~ The application resulting in the ‘938 Patent was prosecuted by attorneys and/or patent agents at Moyles IP, LLC, including Lisa Moyles and Jason M. Rockman.

314. ~~288.~~ Ian Grieves signed a Power of Attorney for the application resulting in the ‘938 Patent on behalf of DynaEnergetics GmbH & Co. KG (the applicant).

The ‘422 Patent:

315. ~~289.~~ United States Patent No. 9,581,422 (The ‘422 Patent), issued on February 28, 2017 from Appl. No. 14/932,865.

316. ~~290.~~ All of the inventors named on the ‘422 Patent are also named as inventors on the ‘161 Patent and ‘938 Patent.

317. ~~291.~~ Plaintiffs have alleged that the ‘422 Patent is infringed through the manufacture of the H-1TM Perforating Gun System and sales of or offers to sell the H-1TM Perforating Gun System.

318. ~~292.~~ Plaintiffs have alleged that the H-1TM Perforating Gun System infringes one or more claims of the ‘422 Patent.

319. ~~293.~~ The subject matter of the ‘422 Patent is closely related to that of the ‘161 and ‘938 Patents.

320. ~~294.~~ All claims of the ‘422 Patent have been found Anticipated.
‘422 Patent IPR:

321. ~~295.~~ On February 16, 2018, Defendant filed a Petition seeking Inter-Partes Review of the ‘422 Patent, Case No IPR2018-00600.

322. ~~296.~~ IPR2018-00600 challenged the validity of United States Patent No. 9,581,422 (“the ‘422 Patent”).

323. ~~297.~~ Lisa Moyles and Jason M. Rockman are counsel of record for DynaEnergetics in IPR2018-00600.

324. ~~298.~~ Lisa Moyles and Jason M. Rockman have been counsel of record for DynaEnergetics in IPR2018-00600 since at least February 2018.

325. ~~299.~~ The Schacherer ‘223 Reference was a key piece of prior art in IPR2018-00600.

326. ~~300.~~ United States Patent No. 9,080,433 (“the Lanclos ‘433 Reference”) was attached to the Petition in IPR2018-00600.

327. ~~301.~~ The Lanclos ‘433 Reference was a key piece of prior art in IPR2018-00600.

328. ~~302.~~ By March 7, 2019 IPR2018-00600 was well underway and had included briefing of the parties and related expert reports through the Petitioner's Reply in Support of the Petition and Response on Patent Owner's Motion to Amend.

329. ~~303.~~ On August 20, 2019, the Patent Trial and Appeal Board (PTAB) issued its Final Written Decision in IPR2018-00600.

330. ~~304.~~ The August 20, 2019 Final Written Decision in IPR2018-00600 found all claims of the '422 Patent and all proposed Amended claims unpatentable.

331. ~~305.~~ Lisa Moyles and Jason M. Rockman were aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

332. ~~306.~~ Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey) was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

333. ~~307.~~ On information and belief, Caroline Mrohs was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

334. ~~308.~~ Ian Grieves was aware of the Final Written Decision in IPR2018-00600 before September 11, 2019.

335. ~~309.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the prior art, arguments, and substantive decisions in IPR 2018-00600 were material to the patentability of the claims pursued in the application that resulted in the '161 and '938 Patents no later than March 25, 2019.

336. ~~310.~~ On August 21, 2018 the Patent Trial and Appeal Board ("PTAB") issued its decision to institute Inter-Partes Review in IPR2018-00600 (IPR2018-00600, Paper 10).

337. ~~311.~~ On August 20, 2019, the PTAB issued the Final Written Decision in IPR2018-00600 (IPR2018-00600, Paper 42).

338. ~~312.~~ On March 7, 2019, Defendant filed Petitioners Reply in IPR 2018-00600 (IPR2018-00600, Paper 24).

339. ~~313.~~ On March 7, 2019, Defendant filed Petitioner's Opposition to Motion to Amend in IPR 2018-00600 (IPR2018-00600, Paper 25).

340. ~~314.~~ On April 11, 2019, Defendant filed Petitioners Sur-Reply on Motion to Amend in IPR 2018-00600 (IPR2018-00600, Paper 33).

341. ~~315.~~ On August 20, 2019, the PTAB filed the Transcript of Oral Hearing in IPR 2018-00600 (IPR2018-00600, Paper 42).

'938 Patent Materiality:

342. ~~316.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the Schacherer '223 Reference's teachings regarding components "entirely within the perforating gun housing." That discussion is material to at least the claim terms "an outer gun carrier," "within the outer gun carrier," and "entirely within the outer gun carrier," in the '938 Patent claims.

343. ~~317.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the proper interpretation of the claim limitation "a shell configured for housing components of the detonator assembly." That discussion is material to the '938 Patent claims' "a detonator body containing detonator components."

344. ~~318.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 discussed uncontested limitations, including that DynaEnergetics did not dispute "that Schacherer's detonator assembly includes "electrical contact components" having "line-in," "lineout," and "ground" portions." The Final Written decision further stated that "The record fully supports Hunting Titan's showing of how Schacherer discloses these uncontested limitations." This

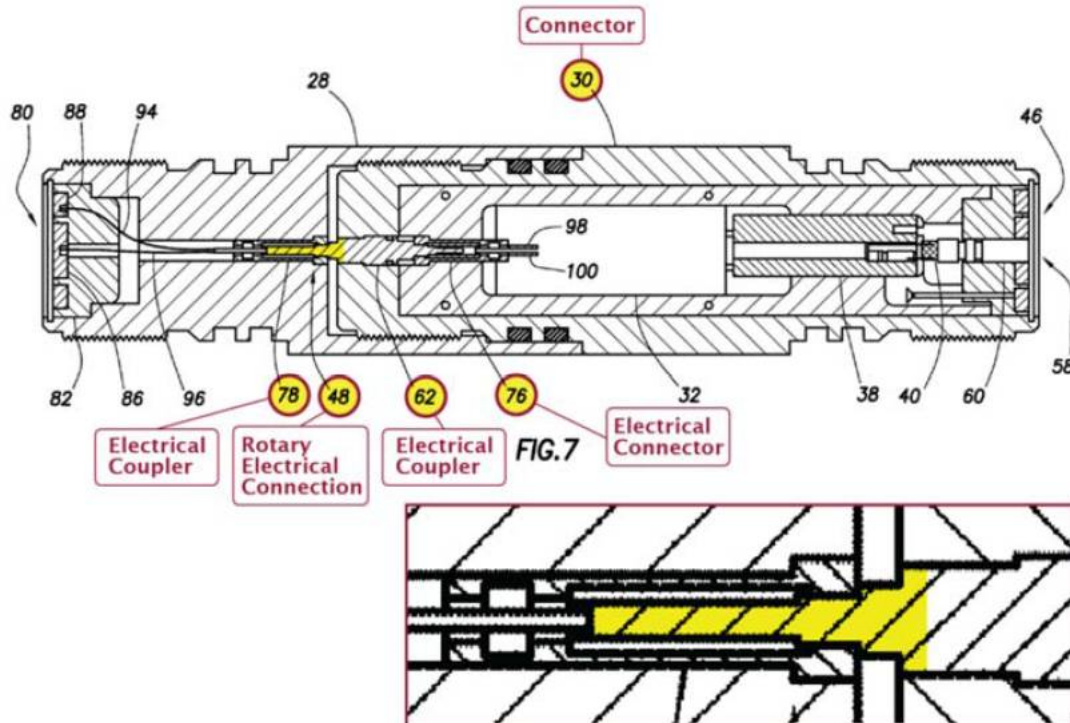
discussion is material to the '938 Patent claims' "a wireless signal-in connector, a wireless through wire connector, and a wireless ground contact connector."

345. ~~319.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 discussed "an insulator positioned between the line-in portion and the lineout portion," and how the Schacherer '223 Reference taught it. This discussion is material to the '938 Patent claims' "an insulator electrically isolating the wireless signal-in connector from the wireless through wire connector."

346. ~~320.~~ The Examiner would not have allowed any claims of the '938 Patent if they realized that they were not limited to looking only at item 84 of Schacherer to meet the bulkhead limitation, only at "outer housing 26" to meet the tandem seal adapter limitation, and only at item 46 to meet the wireless ground contact connector limitation.

347. ~~321.~~ The examiner thought that Schacherer did not disclose a wireless ground portion in contact with a tandem seal adapter because they thought that only the large contacts shown in Figure 3 of Schacherer were wireless electrical contacts. This meant that the examiner was looking ONLY outside of the items shown in Figure 4 of Schacherer to find a bulkhead, tandem adapter, and associated wireless contacts.

348. ~~322.~~ The Final Written Decision (IPR2018-00600) explained as follows:



As shown in annotated Figure 7 above, the electrical contact component in Schacherer's detonator assembly includes both electrical coupler 62 and electrical connector 76, both of which are sealed within connector 30, i.e., the shell. Hunting Titan's expert confirms as much. Ex. 1006 ¶¶ 35–37. Importantly, when connector 30 “is threaded into the connector 28” of the perforating gun assembly, an electrical signal can be transmitted from the perforating gun to selective firing module 32 residing within Schacherer's detonator assembly. Ex. 1002, 5:54–56.

DynaEnergetics' assertion that only coupler 76 forms the line-in portion of Schacherer's detonator assembly contradicts Schacherer's plain disclosure that electrical coupler 62 together with electrical contact 76 form not only the male-to-female electrical connection 48 with the perforating gun assembly 26, 28, but also the “line-in” to selective firing module 32.

349. ~~323.~~ The Final Written Decision's determinations on this point were based on the evidence and arguments in the Petition, Petitioner's Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and the Transcript of Oral Hearing (IPR2018-00600, Papers, 1, 24, 25, 33, and 41).

350. ~~324.~~ Item 62 in Figure 7 of the Schacherer '223 Reference is a bulkhead, items 28, 78, 82 and others constitute a tandem seal adapter, and the ground contact is in electrical communication with the tandem seal adapter through at least rotary electrical connection 48 as claimed in the '938 Patent.

351. ~~325.~~ If the Examiner had the benefit of the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) then they would have known that the claims in the '938 Patent were unpatentable because item 62 in Schacherer Figure 7 is a bulkhead, items 28, 78, 82 and others constitute a tandem seal adapter, and the ground contact is in electrical communication with the tandem seal adapter through at least rotary electrical connection 48 as claimed in the '938 Patent.

352. ~~326.~~ As the '938 Patent Application Examiner and the PTAB found, all remaining elements at least claim 1 of the '938 Patent are claimed in the '422 Patent, or Plaintiffs' proposed amended claims, and anticipated by Schacherer.

353. ~~327.~~ The Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer.

354. ~~328.~~ The '938 Patent Application Examiner's patentability analysis was premised on a narrow reading of Schacherer. If the Examiner had known about the Final Written Decision and the PTAB's understanding that ALL claims proposed by Plaintiffs were unpatentable, then the Examiner would have viewed the teachings of Schacherer differently throughout the analysis.

355. ~~329.~~ The Final written decision (IPR2018-00600, Paper 42) explicitly held that the virtually identical detonator limitations in the ‘422 claims were described in Schacherer and were uncontested by Plaintiffs:

At the outset, we note that DynaEnergetics neither refutes nor responds to Hunting Titan’s showing that Schacherer teaches a “detonator assembly” for “being... received within a perforating gun assembly.” As recited in the preamble of Claim 1...

In sum, we conclude that Hunting Titan has met its burden of proving that Schacherer discloses a “detonator assembly” that is (1) “received within a perforating gun,” (2) has “more than one electrical contact component, wherein at least one of the electrical contact components... comprises an electrically contactable line-in portion,... line-out portion and ground portion,” and (3) has “means for selective detonation,” as recited in representative claim 1.

(Ex. 4, Final Written Decision, IPR Paper 42, pp. 9-10).

356. ~~330.~~ The Final Written Decision (IPR2018-00600, Paper 42) expressly found that, “DynaEnergetics acknowledges that ‘[c]onnecting a detonator using electrical contacts rather than manual wiring . . .’ is the entire essence of the invention claimed in the ‘422 Patent.”

357. ~~331.~~ Nothing before the ‘938 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs’ arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

358. ~~332.~~ The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the

teachings of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the '938 Patent Application Examiner.

359. ~~333.~~—The Plaintiffs intentionally withheld references showing their acknowledgements and uncontested claim interpretations that were inconsistent with the Examiner's understanding of the Schacherer '223 Reference.

360. ~~334.~~—The elements of claim 1 of the '938 Patent map to the '422 Patent and proposed amended claims as follows:

'938 claim 1	'422 claims and specification
1. A perforating gun, comprising:	'422 Patent, 9:10
an outer gun carrier;	IPR Motion to Amend, p. 27, 36.
a charge holder positioned within the outer gun carrier and including at least one shaped charge;	IPR Motion to Amend, p. 27, 36.
a detonator contained entirely within the outer gun carrier,	IPR Motion to Amend, p. 27, 39.
the detonator including a detonator body containing detonator components,	'422 Patent, 8:43-44, 9:17-18.
a wireless signal-in connector, a wireless through wire connector, and a wireless ground contact connector, and	'422 Patent, 8:48-54, 9:22-28.
an insulator electrically isolating the wireless signal-in connector from the wireless through wire connector; and,	'422 Patent, 8:55-57, 9:29-31.
a bulkhead, wherein the bulkhead includes a contact pin in wireless electrical contact with the wireless signal-in connector,	'422 Patent, 6:25-33.
Wherein at least a portion of the bulkhead is contained within a tandem seal adapter, and	'422 Patent, 6:25-33.
the wireless ground contact connector is in	'422 Patent, 6:25-33.

‘938 claim 1	‘422 claims and specification
wireless electrical contact with the tandem seal adapter.	

361. ~~335.~~ Instead of providing the critical analysis and determinations regarding the prior art contained in the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), Plaintiffs left the ‘938 Patent Application Examiner with their own briefing.

362. ~~336.~~ Nothing before the ‘161 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs’ arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

363. ~~337.~~ The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the ‘938 Patent Application Examiner.

364. ~~338.~~ The Plaintiffs intentionally withheld their acknowledgements and uncontested claim interpretations that were inconsistent with the Examiner’s understanding of the Schacherer ‘223 Reference.

365. ~~339.~~ Because the ‘938 Patent Application Examiner did not have the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), they were left with Plaintiffs’ patentability arguments, but not the information that refutes, or is inconsistent with, those patentability arguments.

366. ~~340.~~ The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) are not cumulative to the other references cited during prosecution of the ‘161 or ‘938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the ‘161 and ‘938 Patents.

‘161 Patent Materiality

367. ~~341.~~ The ‘161 Patent in this case and the ‘422 Patent in the IPR describe and claim nearly identical systems and use at least one identical figure.

368. ~~342.~~ Each element of claim 20 of the ‘161 Patent corresponds to structurally and functionally equivalent elements in the claims of the ‘422 Patent, including Plaintiffs’ proposed amended claims during the IPR.

369. ~~343.~~ The following chart shows that each element of claim 20 of the ‘161 Patent corresponds to structurally and functionally equivalent elements in the claims of the ‘422 Patent, including Plaintiffs’ proposed amended claims during the IPR.

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
A perforation gun system comprising:	A perforating gun assembly, comprising:	'422 Patent, 9:10.
A gun carrier	a perforating gun housing	IPR2018-00600, Paper 21, Claims Appendix, page i.
a first connector for providing energetic coupling between a detonator and a detonation cord,	<p>a detonator positioning assembly within the perforating gun assembly</p> <p>positioning the wirelessly-connectable selective detonator assembly within the detonator positioning assembly</p> <p>positioning a detonating cord within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly</p> <p>initiating the detonating cord without the detonating cord</p> <p>having to be attached to the detonator assembly</p>	'422 Patent, 10:39-52.
the first connector positioned in the gun carrier	<p>a wirelessly-connectable selective detonator assembly contained entirely within the perforating gun housing</p> <p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection within the perforating gun housing merely by contact;</p> <p>the detonator assembly is configured for electrically contactably forming the electrical connection within the</p>	IPR2018-00600, Paper 21, Claims Appendix, page i, ii.

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
	<p>perforating gun housing merely by the contact and without the need of manually and physically connecting wires.</p> <p>a detonating cord positioned within the perforating gun housing such that at least a portion of the detonating cord is in contact with the detonator assembly</p>	
<p>at least one second connector positioned in the gun carrier spaced apart from the first connector, wherein the second connector is configured for terminating the detonation cord in the perforation gun system,</p>	<p>a carrying device positioned within the perforating gun housing and configured for holding at least one shaped charge</p> <p>a detonating cord positioned within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly.</p> <p>positioning a detonating cord within the perforating gun assembly such that at least a portion of the detonating cord is in contact with the detonator assembly.</p>	<p>IPR2018-00600, Paper 21, Claims Appendix, page i.</p> <p>'422 Patent, 9:51-53, 10:45-47.</p>
<p>wherein at least one of the first and second connectors receive electrical connections therethrough.</p>	<p>A wireless detonator assembly configured for being electrically contactably received within a perforating gun assembly without using a wired electrical connection</p> <p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection merely by contact</p> <p>wherein the detonator assembly is configured for electrically contactably forming the electrical connection merely by the contact</p>	<p>'422 Patent, 8:39-41, 51-54, 59-61.</p>

'161 claim 20 elements	Example '422 claim elements	'422 claim limitation location
	<p>the ground portion in combination with the line-in portion and the line-out portion being configured to replace the wired electrical connection to complete an electrical connection within the perforating gun housing merely by contact;</p> <p>the detonator assembly is configured for electrically contactably forming the electrical connection within the perforating gun housing merely by the contact and without the need of manually and physically connecting wires.</p>	IPR2018-00600, Paper 21, Claims Appendix, page i, ii.

370. ~~344.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 discussed the Schacherer '223 Reference's teachings regarding components "entirely within the perforating gun housing." That discussion is material to at least the claim terms "a gun carrier," "within the gun carrier," "in the gun carrier," and "in the perforating gun system," in the '161 Patent claims.

371. ~~345.~~ Every element of '161 Patent Claim 20 corresponds to structurally and functionally equivalent elements in the claims of the '422 Patent that the Final Written Decision (IPR2018-00600, Paper 42) found anticipated by Schacherer. Therefore, the Final Written decision found every element of claim 20 of the '161 Patent in Schacherer, rendering it anticipated.

372. ~~346.~~ If the Examiner had known that the Final Written Decision (IPR2018-00600, Paper 42) had found every element of claim 20 in Schacherer, then claim 20 would not have issued.

373. ~~347.~~ Figure 18 of the '161 and '938 Patents is identical to Figure 6 of the '422 Patent, other than differences in reference numerals.

374. ~~348.~~ The ‘422 Patent describes this drawing, ‘422 Patent Figure 6, as “a perspective view of the detonator positioning assembly.” (‘422 Patent, 3:9-10).

375. ~~349.~~ The ‘161 Patent describes this same drawing, ‘161 Patent Figure 18, as “a rear perspective view of the top connector.” (‘161 Patent, 4:21). The ‘422 Patent claims this “detonator positioning assembly” and the ‘161 Patent claims this “top connector” as “a first connector.” (‘422 Patent, 10:39-52; ‘161 Patent, 10:37, 12:43; 3/11/2019 Response to Office Action, p. 2 (amending “at least one top connector” to “a first connector.”)). Therefore, the ‘161 and ‘938 Patents describe, depict, and claim the same structures.

376. ~~350.~~ The Final Written Decision (IPR2018-00600, Paper 42) explains that, despite Plaintiffs arguing to the contrary, that Schacherer teaches and it is well known in the art to have perforating components contained entirely within an outer housing.

377. ~~351.~~ The Final written Decision (IPR2018-00600, Paper 42) found that the prior art taught at least the following components in the housing: a detonator, a detonating cord, one or more charges. ‘161 Patent claim 20 includes the limitation “the first connector positioned in the gun carrier,” and “at least one second connector positioned in the gun carrier.” Therefore, the PTAB Final Written Decision provides critical interpretation of the meaning of the terms used in the claims of the ‘161 Patent.

378. ~~352.~~ Plaintiffs argued in the IPR that their amended claims were patentable based on an “entirely within the perforating gun housing” limitation, an argument the PTAB rejected in the Final Written Decision (IPR2018-00600, Paper 42). This same limitation is inherent in ‘161 Patent Claim 20. Therefore, the Final Written decision would have shown the ‘161 Patent Examiner that limitation was taught by The Schacherer ‘223 Reference.

379. ~~353.~~ The Final Written Decision's determinations of unpatentability and the teachings of the prior art were based on the evidence and arguments in the Petition, Petitioner's Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and the Transcript of Oral Hearing (IPR2018-00600, Papers, 1, 24, 25, 33, and 41).

380. ~~354.~~ Plaintiffs and Applicant did not provide the '161 Patent Application Examiner with the critical analysis and determinations regarding the prior art contained in the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42).

381. ~~355.~~ Nothing before the '161 Patent Application Examiner provided an interpretation of the prior art by the PTAB in view of Plaintiffs' arguments or an evaluation of the knowledge of a person of ordinary skill in the art. Therefore, the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the '161 Patent Application Examiner.

382. ~~356.~~ The Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), also provide critical understanding of the knowledge of a person of ordinary skill in the art and how such a person would read the teachings of the prior art, including Schacherer. Therefore, the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42), are not cumulative to material that was before the '161 Patent Application Examiner.

383. ~~357.~~ The Plaintiffs intentionally withheld their acknowledgements and uncontested claim interpretations that were inconsistent with the ‘161 Patent Application Examiner’s understanding of the Schacherer ‘223 Reference.

384. ~~358.~~ The Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) are not cumulative to the other references cited during prosecution of the ‘161 or ‘938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the ‘161 and ‘938 Patents.

385. ~~359.~~ The August 21, 2019 Final Written Decision in IPR2018-00600 is not cumulative to the other references cited during prosecution of the ‘161 or ‘938 Patent because none of those references constitute interpretation of the teachings of key prior art that apply directly to claim language in the ‘161 and ‘938 Patents.

Intent

386. ~~360.~~ On March 20, 2019, the Applicant submitted an IDS to the ‘938 Patent Application Examiner listing 72 US Patents, 25 US Applications, 9 Foreign Patent Documents, and 8 non-patent documents. (Dkt. 26-3, 3/20/2019 IDS).

387. ~~361.~~ On March 25, 2019, the Applicant submitted an IDS to the ‘938 Patent Application Examiner disclosing 29 non-patent documents. (Dkt. 26-4, 3/25/2019 IDS).

388. ~~362.~~ On June 20, 2019, the Applicant submitted a third and final IDS to the ‘938 Patent Application Examiner listing a single Indian Office Action. (Ex. 10, 6/20/2019 IDS).

389. ~~363.~~ The Applicant submitted 144 references in the ‘938 Patent Application.

390. ~~364.~~ The Applicant submitted to the ‘938 Patent Application Examiner 126 pages of their own briefing from IPR2018-00600, but not the Final Written Decision or the Petitioner’s opposition to that briefing.

391. ~~365.~~ When the PTAB issued its Final Written Decision on August 20, 2019, the ‘938 Patent Application stood rejected.

392. ~~366.~~ On September 6, 2019, Jason Rockman discussed the ‘938 Patent Application with the Examiner and argued for the ‘938 Patent to issue, but did not tell the Examiner about the PTAB’s Final Written Decision (IPR2018-00600).

393. ~~367.~~ The Applicant copied claim language into the ‘938 Patent Application from the ‘422 Patent.

394. ~~368.~~ The ‘938 Patent directly incorporates claim limitations from the Houston case’s ‘422 Patent that are not mentioned in the ‘938 specification.

395. ~~369.~~ Every asserted claim of the ‘938 Patent includes the word “wireless,” which does not appear anywhere in the ‘938 specification.

396. ~~370.~~ The term “wireless” was defined and discussed at length and in the specification and claims of ‘422 Patent.

397. ~~371.~~ The term “wireless” was also central to the analysis of the prior art and patentability in the Final Written Decision (IPR2018-00600, Paper 42).

398. ~~372.~~ Seven of ten limitations in ‘938 claim 1 are in the claims of the ‘422 Patent in the Houston case as issued or in the proposed amended claims in the IPR. The remaining three elements are standard claim terms that are described in the ‘422 specification and well known in the art.

399. ~~373.~~ Claim 12 of the '938 Patent is entirely composed of claim limitations that are not mentioned in the '938 specification, but are almost verbatim copied from claim 1 of the '422 Patent as shown below.

'938 Claim 12	'938 Specification	'422 Claim 1
12. The modular detonator of claim 9, wherein		
the modular detonator is <u>configured for being electrically contactably received</u> within the gun assembly of the perforating gun system <u>without using a wired electrical connection</u> , and	Not present	A wireless detonator assembly <u>configured for being electrically contactably received</u> within a perforating gun assembly <u>without using a wired electrical connection</u>
the wireless signal-in connector, the wireless through-wire connector, and the wireless ground contact connector together are	Not present	The ground portion in combination with the line-in portion and the line-out portion being
configured to replace the wired electrical connection and to complete an electrical connection merely by contact.	Not present	configured to replace the wired electrical connection to complete an electrical connection merely by contact

400. ~~374.~~ The '422 Patent incorporates by reference Canadian Patent Application No. 2,824,838 filed Aug. 26, 2013, entitled PERFORATION GUN COMPONENTS AND SYSTEM. The '161 and '938 Patents both claim priority to that Canadian Application.

401. ~~375.~~ That incorporation by reference acknowledges the close relation between the '161 and '938 Patents and the '422 Patent and that those responsible for prosecuting the '422 Patent, including at least Lisa Moyles and Janelle Bailey were aware of the close relationship of these patent applications and the likely materiality of any prior art references from one application to another.

402. ~~376.~~ Plaintiffs and their counsel have shown a pattern of lack of candor, including repeatedly making factual representations contrary to the true information they had in their possession.

403. ~~377.~~ The PTAB found in its Institution Decision and Final written Decision (IPR2018-00600, Paper 10, 42) that, Plaintiffs:

- “Ignore[d] the express teachings of Schacherer and the relevant knowledge in the art.”
- Ignored the “clear disclosure in the ‘422 Patent [that] amounts to an admission.”
- “Oversimplifies what constitutes Schacherer’s detonator assembly and ignores the express language of the claim.”
- “Rather than acknowledge the plain language of the claim, [Patent Owner] distorts the testimony.”
- Failed to provide “support, intrinsic or otherwise, for [Patent Owner’s] argument.”
- Presented an argument that was “nothing more than semantics.”
- “Contradicts Schacherer’s plain disclosure.”

404. ~~378.~~ The March 14, 2018 IDS disclosing the publication of the Schacherer ‘223 Reference in the ‘161 Patent Application indicates that those responsible for prosecuting the ‘161 Patent application knew that IPR2018-00600 was material to the claims at issue at that time.

405. ~~379.~~ The March 14, 2018 IDS disclosing the publication of the Schacherer ‘223 Reference in the ‘161 Patent Application indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

406. ~~380.~~ The March 20, 2019 and March 25, 2019 IDS filings in the ‘938 Patent Application indicates that those responsible for prosecuting that application were aware of IPR2018-00600 at that time.

407. ~~381.~~ The March 20, 2019 and March 25, 2019 IDS filings in the ‘938 Patent Application indicates that those responsible for prosecuting that application knew that IPR2018-00600 was material to the claims at issue at that time.

408. ~~382.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Institution Decision, Paper 10, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than March 25, 2019.

409. ~~383.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Final Written Decision, Paper 42, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than September 11, 2019.

410. ~~384.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Transcript of Oral Hearing, Paper 41, in IPR 2018-00600 was material to the patentability of the claims pursued in the ‘938 Patent Application no later than September 11, 2019.

411. ~~385.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners responsive briefing, Papers 24 and 25 in IPR 2018-00600 were material to the patentability of the claims pursued in the ‘938 Patent Application no later than March 25, 2019.

412. ~~386.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners Sur-Reply on Patent Owner's Motion to Amend, Paper 33 in IPR 2018-00600, was material to the patentability of the claims pursued in the '938 Patent Application no later than September 11, 2019.

413. ~~387.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Institution Decision, Paper 10, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

414. ~~388.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Final Written Decision, Paper 42, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

415. ~~389.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that the Transcript of Oral Hearing, Paper 41, in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

416. ~~390.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners responsive briefing, Papers 24 and 25, in IPR 2018-00600 were material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

417. ~~391.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petitioners Sur-Reply on Patent

Owner's Motion to Amend, Paper 33 in IPR 2018-00600, was material to the patentability of the claims pursued in the '161 Patent Application no later than September 11, 2019.

418. ~~392.~~ Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves all knew that Petition in IPR 2018-00600 was material to the patentability of the claims pursued in the '161 Patent Application no later than March 25, 2019.

419. ~~393.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the August 20, 2019 Final Written Decision (IPR2018-00600, Paper 42) in the '161 Patent Application or '938 Patent Application.

420. ~~394.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Transcript of Oral Hearing (IPR2018-00600, Paper 41) in the '161 Patent Application or '938 Patent Application.

421. ~~395.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Petitioners responsive briefing (IPR2018-00600, Papers 24, 25) in the '161 Patent Application or '938 Patent Application.

422. ~~396.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Institution Decision (IPR2018-00600, Paper 10) in the '161 Patent Application.

423. ~~397.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed the Petition for Inter Partes Review in IPR2018-00600 in the '161 Patent Application.

424. ~~398.~~ None of Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), or Ian Grieves ever disclosed Petitioner's Sur-Reply on Patent Owner's Motion to Amend (IPR2018-00600, Paper 33) in the '161 Patent Application or '938 Patent Application.

425. ~~399.~~ The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed the August 21, 2019 Final Written Decision in IPR2018-00600.

426. ~~400.~~ The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed the Transcript of Oral Hearing (IPR2018-00600, Paper 41).

427. ~~401.~~ The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed Petitioners responsive briefing (IPR2018-00600, Papers 24, 25).

428. ~~402.~~ The Examiners would not have allowed the '161 or '938 Patent to issue if they had reviewed Petitioner's Sur-Reply on Patent Owner's Motion to Amend (IPR2018-00600, Paper 33).

429. ~~403.~~ The Examiner would not have allowed the '161 Patent to issue if they had reviewed the Institution Decision (IPR2018-00600, Paper 10).

430. ~~404.~~ The Examiner would not have allowed the '161 Patent to issue if they had reviewed the Petition for Inter Partes Review in IPR2018-00600.

431. ~~405.~~ On information and belief, Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents

with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board so that unduly broad claims would issue.

432. ~~406.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the close relationship of the subject matter of the '422 Patent and the '161 and '938 Patents while they were actively involved in the prosecution of the IPR and the applications resulting in the '161 and '938 Patents.

433. ~~407.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the '161 and '938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the IPR Briefing, Oral Hearing, and Final Written Decision discussed nearly identical claim limitations.

434. ~~408.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O'Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the Final Written Decision, Petitioners Reply, Petitioner's Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing

(IPR2018-00600, Papers, 24, 25, 33, 41, and 42) from the Examiners for the ‘161 and ‘938 Patents with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they disclosed some, but not all materials from IPR2018-00600, to some, but not all of, the Examiners.

435. ~~409.~~ The ‘161 and ‘938 Patents are unenforceable because they were procured through inequitable conduct before the USPTO because Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves knew of the Final Written Decision, Petitioners Reply, Petitioner’s Opposition to Motion to Amend, Petitioners Sur-Reply on Motion to Amend, and/or the Transcript of Oral Hearing (IPR2018-00600, Papers, 24, 25, 33, 41, and 42) and other materials from the IPR and that they were material to the claims of the ‘161 and ‘938 Patents during prosecution of the patents and, on information and belief, they intentionally withheld them from the Patent Examiners with specific intent to deceive the Patent Examiners.

436. ~~410.~~ On information and belief, Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board so that unduly broad claims would issue.

437. ~~411.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the close relationship of the

subject matter of the ‘422 Patent and the ‘161 Patent while they were actively involved in the prosecution of the IPR and the ‘161 Patent Application.

438. ~~412.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they knew the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) discussed nearly identical claim limitations.

439. ~~413.~~ It is reasonable to infer that Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves intentionally withheld the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) from the Examiner for the ‘161 Patent Application with intent to deceive them about the teachings of the relevant art and decisions of the Patent Trial and Appeal Board because they disclosed some, but not all materials from IPR2018-00600, to the ‘938 Patent Application Examiner, but not to the ‘161 Patent Application Examiner.

440. ~~414.~~ The ‘161 Patent is unenforceable because they were procured through inequitable conduct before the USPTO because Lisa Moyles, Jason M. Rockman, Caroline Mrohs, Janelle A. O’Neill (Reg No. 73,860, AKA Janelle A. Bailey), and/or Ian Grieves knew of the IPR Petition and Institution Decision (IPR2018-00600, Papers 1, 10) and other materials from the IPR and that they were material to the claims of the ‘161 Patent during prosecution of the patents and, on information and belief, they intentionally withheld them from the Patent Examiner with specific intent to deceive the Patent Examiner.

[Schlumberger’s SafeJet Prior Art Perforating Gun](#)

441. Inventors Thilo Scharf, Frank Preiss, David Parks, Liam McNelis, and Christian Eitschberger committed inequitable conduct by intentionally omitting their use of Schlumberger's SafeJet perforating gun as the basis for the invention of the Asserted Patents. Further, these individuals committed inequitable conduct by intentionally omitting a 2011 presentation regarding the SafeJet system that Mr. Scharf gave to Schlumberger's customers while he was still employed at Schlumberger from the examiner.

442. Before Thilo Scharf worked for Plaintiffs, he worked for Schlumberger as a "perforating domain champion" and was considered an expert in perforating by his colleagues. Sometime in 2011, Mr. Scharf gave a presentation on the SafeJet perforating gun while working at Schlumberger to Schlumberger's customers, with his name shown on the front cover.

443. When he went to work for Plaintiffs in August 2011, Mr. Scharf brought a copy of this presentation with him on a USB drive, along with 13 other PDF files he obtained while working for Schlumberger.

444. Mr. Scharf wanted to show his boss "what was going on in the industry and other markets," so he gave this USB drive to Frank Preiss.

445. Mr. Preiss contacted David Parks in February 2012 to discuss Plaintiffs hiring his company, JDP Engineering & Machine, to develop a new perforating gun.

446. Shortly after, a "Request for Proposal" sent from Mr. Parks' e-mail in March 2012 shows that he agreed to "provide a prototype carrier system **based on a photo** and Features List."

447. In April 2012, Mr. Preiss then gave Mr. Parks a "high resolution picture of the existing injection molded system that originated with Thilo" from "a pdf file that I [Mr. Preiss] am not supposed to have a copy from."

448. While none of the inventors remember what this photograph shows, the only photograph that Mr. Preiss had in his paper files showed the SafeJet gun taken from the same presentation he received from Mr. Scharf.

449. None of the inventors could identify any injection molded perforating gun they considered other than the SafeJet perforating gun that originated with Thilo Scharf.

450. In October 2015 (and before prosecution of the Asserted Patents), Mr. Scharf sent the 2011 SafeJet presentation to eight other employees with Plaintiffs, including to inventors Liam McNelis and Christian Eitschberger, as well as Plaintiffs' President, Ian Grieves.

451. In that e-mail, Mr. Scharf stated that he was "very familiar" with the SafeJet system.

452. He stated that the SafeJet "gun is fully disposable with single o-ring seals and gun to gun threads."

453. He further stated that "[t]he system when originally introduced in 2011 was deemed too expensive and was only ever run in small quantities in the North Sea."

454. On March 20, 2019, Plaintiffs filed U.S. Patent Application No. 16/359,540 (the '938 Patent application).

455. On March 25, 2019, Plaintiffs submitted an information disclosure statement during prosecution of the '938 Patent that included a 2012 presentation on Schlumberger's SafeJet perforating gun from Amit Govil.

456. Similar to Mr. Scharf, Mr. Govil was also a perforating domain champion at Schlumberger.

457. Despite their knowledge of the 2011 SafeJet presentation from Thilo Scharf, none of the inventors (nor Plaintiffs' President, Ian Grieves) disclosed the 2011 SafeJet presentation to the examiner during prosecution.

458. Further, none of the inventors disclosed the fact that lead inventor David Parks used a picture of the SafeJet perforating gun as a basis to develop the inventions of the Asserted Patents.

459. These omissions were material to the proposed claims because the examiner found that the proposed "tandem seal adapter" limitations were the point of novelty over the prior art.

460. On May 3, 2019, the examiner rejected the proposed claims as anticipated by Lerche and Schacherer, including the claimed "bulkhead," finding that "Schacherer further discloses a bulkhead (connector 84, see Fig. 5)."

461. The Examiner found that dependent claim 6 would be allowable because "the prior art fails to anticipate or make obvious . . . wherein at least a portion of the bulkhead is contained within a tandem seal adapter." Specifically, "Schacherer is considered to most relevant known prior art who discloses a bulkhead 84 that is contained within an outer housing 26 of the perforating gun."

462. As Thilo Scharf admitted during his deposition, the Schlumberger SafeJet perforating gun includes a "tandem isolation assembly," which is the same thing as a "tandem seal adapter."

463. But for Plaintiffs' failure to disclose the 2011 SafeJet presentation, Mr. Scharf's involvement in the SafeJet gun while at Schlumberger, and Mr. Parks' use of the SafeJet gun to develop the Asserted Patents, the examiner would not have granted the claims of the '938 Patent.

464. Had the examiner known that Mr. Scharf was involved with the prior art SafeJet gun, that the SafeJet gun included the alleged point of novelty, and that Mr. Parks used the SafeJet

gun to develop the Asserted Patents, the examiner would not have allowed the proposed claims under 35 U.S.C. § 103 as an obvious modification over the prior art.

465. The inventors knew the SafeJet perforating gun was material because they disclosed the 2012 presentation from Amit Govil to the examiner.

466. The inventors intended to deceive the examiner by omitting Mr. Scharf's 2011 SafeJet presentation during prosecution. This presentation had Mr. Scharf's name on the front cover and would have disclosed Mr. Scharf's involvement in the prior art gun to the examiner had it been disclosed.

DEMAND FOR JURY TRIAL

467. ~~415.~~ The Defendant hereby demands a trial of this action by jury.

PRAYER FOR RELIEF

WHEREFORE, the Defendant prays for relief as follows:

A. DynaEnergetics take nothing as a result of the Complaint and that DynaEnergetics' claims be dismissed with prejudice;

B. DynaEnergetics be restrained from further prosecuting or instituting any action against the Defendant on the basis that any claim of the '161 or '938 Patents are valid, enforceable, and infringed, or from representing that the Defendant's products or services, or that the use thereof, infringes any claim of any of the '161 or '938 Patents;

C. That this case be declared exceptional and DynaEnergetics be required to pay the Defendant their costs of suit, expenses, and attorneys' fees pursuant to 35 U.S.C. § 285 and all other applicable statutes, rules, and common law;

D. A declaration that the Defendant does not infringe the '161 or '938 Patents;

E. A declaration that the ‘161 and ‘938 Patents ~~is~~are invalid and/or unenforceable, and thus cannot be asserted against the Defendant.

Dated: ~~September 10~~ April 26, 2021 ~~2022~~

Respectfully submitted,

/s/ Charles S. Baker

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CERTIFICATE OF SERVICE

I hereby certify that, on ~~this 10th day of September~~April 26, 20212022, a true and correct copy of the Defendant's Amended Answer, Affirmative Defenses, and Counterclaims to Plaintiffs' Second Amended Complaint was served on all counsel of record via CM/ECF.

/s/ Charles S. Baker

Charles S. Baker

Document comparison by Workshare Compare on Tuesday, April 26, 2022
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Document 1 ID	file:///C:/users/rdornberger/Work Folders/Documents/Hunting/Dyna/SDTX Patent/Answer and Counterclaims to second second amended answer Dkt 63.docx
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Document 2 ID	iManage:///uswrkdms.lockelord.net/America/125986320/1
Description	#125986320v1<America> - Amended Answer & Counterclaims to Second Amended Complaint
Rendering set	Standard

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<u>Insertion</u>	
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Moved cell	
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Padding cell	

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Total changes	524
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